Indicators for assessing infant and young child feeding practices

PART 1
DEFINITIONS

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FOOD AND NUTRITION TECHNICAL ASSISTANCE

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Conclusions of a consensus meeting held 6–8 November 2007 in Washington, DC, USA

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Introduction

The document *Indicators for assessing breastfeeding practices* (*1*) published in 1991 provided a set of indicators that could be used to assess infant feeding within and across countries and evaluate the progress of breastfeeding promotion efforts. Since then, there have been important developments in infant and young child feeding recommendations and scientific knowledge about what constitutes optimal breastfeeding and complementary feeding practices, which have led to the need for revision and expansion of the set of indicators initially recommended. In 2001, for example, the World Health Organization (WHO) recommended exclusive breastfeeding for 6 months (*2*, *3*), which was a change from the previous recommendation to introduce complementary foods at 4–6 months. The indicator for exclusive breastfeeding under 4 months thus no longer provides data reflective of current guidelines.

In addition, the document published in 1991 included only one indicator of complementary feeding – the timely complementary feeding rate. This indicator provided information about whether complementary foods were consumed, but not about the quantity or quality of those foods. In response to concerns about the lack of adequate indicators of complementary feeding, in 2002, WHO began a process to review and develop indicators of complementary feeding practices. A conceptual framework for identifying potential indicators of complementary feeding practices was published (*4*). At the same time, the *Guiding Principles for Complementary Feeding of the Breastfed Child* were being developed, which addressed the multidimensionality of complementary feeding practices (*5*). A similar effort to develop guidance and rationale for feeding non-breastfed children 6–23 months of age was undertaken shortly thereafter, which resulted in a technical document (*6*) and a parallel set of Guiding Principles (*7*). Beginning in 2004, members of the Working Group on Infant and Young Child Feeding Indicators initiated a series of activities aimed towards definition and validation of indicators to reflect dietary quality and quantity, using existing data sets from 10 different sites in developing countries (members of the Working Group are listed in Annex 1a). In addition to using the references listed above as guidance, the Working Group was also guided by the recommendations and targets of the *Global Strategy for Infant and Young Child Feeding* (*8*). The results of the analyses conducted by the Working Group were summarized in a report in the summer of 2006 (*9*) and presented at a WHO consultation in October, 2006. Additional analyses to address the remaining questions and concerns were subsequently completed and described in a report submitted in the summer of 2007 (*10*).

Based on the above work, a revised set of indicators was developed and then discussed by participants at the WHO Global Consensus Meeting on Indicators of Infant and Young Child Feeding held from 6–8 November, 2007 on the premises of the WHO Regional Office for the Americas. The list of participants is provided in Annex 1b. This report summarizes the discussion and consensus reached on 8 core indicators and 7 optional indicators for assessing infant and young child feeding practices that are population-based and can be derived from household survey data.

A. Purpose of the indicators

Infant and young child feeding practices directly affect the nutritional status of children under two years of age and, ultimately, impact child survival. Improving infant and young child feeding practices in children 0–23 months of age is therefore critical to improved nutrition, health and development of children. However, until now, indicators that can be used in population-based surveys to measure infant and young child feeding practices have focused mostly on breastfeeding practices. The lack of evidence and consensus on simple indicators of appropriate feeding practices in children 6–23 months of age has hampered progress in measuring and improving feeding practices, thereby constraining improvements in infant and young child nutritional outcomes.

The indicators described in this document are the result of a 5-year effort to develop a set of simple, valid and reliable indicators to assess infant and young child feeding practices. They focus on selected food-related aspects of child feeding, amenable to population-level measurement. Other aspects of optimal feeding such as responsive feeding and adequate texture of food are more complex to assess, and work is still in progress to develop valid and reliable indicator definitions and measurement approaches for these.

Population-level indicators of infant and young child feeding practices are used primarily for: (1) *assessment*: to make national and sub-national comparisons and to describe trends over time; (2) *targeting*: to identify populations at risk, target interventions, and make policy decisions about resource allocation; and (3) *monitoring and evaluation*: to monitor progress in achieving goals and to evaluate the impact of interventions. The indicators described herein are mainly designed for use in large-scale surveys or national programs. Smaller local and regional programs may also find uses for these indicators, but this limited set of measures is not intended to meet all of the needs for program monitoring and evaluation at this level. Programs and projects should augment these with more specific indicators that reflect their own interventions, messages, and behaviour change objectives.

The *indicator definitions should not be translated into caregiver messages* for improving feeding practices in young children. These should be derived from the Guiding Principles (*5*, *7*) and adapted to the local situation. While indicator definitions may not correspond exactly to adapted messages, the indicators will nevertheless reflect population-level progress towards optimal feeding practices.

The indicators described in this document are meant to be considered together. The indicators for assessing feeding practices in children 6–23 months of age in particular should not be considered in isolation, because of the multi-dimensional aspects of appropriate feeding at this age. It is therefore recommended that in surveys, efforts be made to assess data on the full set of indicators for any given population.

Finally, inasmuch as the sample sizes used in monitoring and evaluation of smaller scale programs may be quite small, some of the recommended indicators may be too imprecise to be of use in assessment or in monitoring change for these programs. This is particularly likely for indicators with narrow age ranges in the numerator and the denominator.

B. Methodology for measuring indicators

The proposed indicators should be derived from interviews conducted at the household level using a household survey methodology. Age groups are described in intervals of months completed. For example, a child 6–23 months has completed 6 months but has an age less than 2 years. Although the age group used for each indicator will vary, most indicators can be generated using the data from living[1] children less than 24 months of age.[2] Once core and optional indicators are selected as described below, the survey should be designed to provide adequate sample sizes for all age sub-groups of interest. Except for the indicators "early initiation of breastfeeding" and "children ever breastfed", all indicators are based on current status data, i.e., the current age of the child and other information for the day preceding the survey, rather than on retrospective data. Mothers will not be asked when they stopped or started particular feeding practices, which are questions that tend to produce a heaping of data at certain ages. The previous-day recall period was selected because it has been widely used and found appropriate in surveys of dietary intake when the objective is to describe infant feeding practices in populations. Because practices vary widely from day to day, indicators derived from the previous day recall period should not be used to make assessments of dietary adequacy at the level of the individual.

Criteria that define infant feeding practices used in the document are shown in Table 1. A child can be classified as following a certain practice if criteria listed for that practice are met. Relative to the 1991 guidance, one modification was made with regard to the criteria for exclusive breastfeeding. Since ORS is a medicine, it was agreed to allow this under the definition of exclusive breastfeeding. Exclusive breastfeeding now means that the infant receives breast milk (including expressed breast milk or breast milk from a wet nurse) and allows the infant to receive ORS, drops, syrups (vitamins, minerals, medicines), but nothing else.

[1] Exceptions are the core indicator "early initiation of breastfeeding" and the optional indicator "children ever breastfed," which include living and deceased children.

[2] The exception is the optional indicator "median duration of breastfeeding," which requires a broader range of children, up to less than 36 months of age.

TABLE 1. CRITERIA THAT DEFINE SELECTED INFANT FEEDING PRACTICES

Feeding practice	Requires that the infant receive	Allows the infant to receive	Does not allow the infant to receive
Exclusive breastfeeding	Breast milk (including milk expressed or from a wet nurse)	ORS, drops, syrups (vitamins, minerals, medicines)	Anything else
Predominant breastfeeding	Breast milk (including milk expressed or from a wet nurse) as the predominant source of nourishment	Certain liquids (water and water-based drinks, fruit juice), ritual fluids and ORS, drops or syrups (vitamins, minerals, medicines)	Anything else (in particular, non-human milk, food-based fluids)
Complementary feeding[a]	Breast milk (including milk expressed or from a wetnurse) and solid or semi-solid foods	Anything else: any food or liquid including non-human milk and formula	NA
Breastfeeding	Breast milk (including milk expressed or from a wet nurse)	Anything else: any food or liquid including non-human milk and formula	NA
Bottle-feeding	Any liquid (including breast milk) or semi-solid food from a bottle with nipple/teat	Anything else: any food or liquid including non-human milk and formula	NA

[a] The term complementary feeding, reserved to describe appropriate feeding in breastfed children 6 months of age or beyond, is no longer used in the indicators to assess infant and young child feeding practices. The previously used indicator 'Timely complementary feeding rate' (*1*), which combined continued breastfeeding with consumption of solid, semi-solid and soft foods, was difficult to interpret. This indicator has therefore been replaced by the indicator 'Introduction of solid, semi-solid or soft foods' which is a measure of a single feeding practice. Nevertheless, the term complementary feeding is still very useful to describe appropriate feeding practices in breastfed children 6–23 months of age and will continue to be used in programmatic efforts to improve infant and young child feeding as guided by the *Global Strategy on Infant and Young Child Feeding* (*8*). The timely complementary feeding rate can also be calculated using the data generated for measuring the new and updated indicators.

C. Definitions of indicators

The key indicators are defined and explained below. A summary list of the indicators is presented in Annex 2. For certain indicators, it is strongly recommended that figures (or area graphs) be created to depict the proportion of children receiving each of the relevant feeding practices by child age. Examples of such figures are given in Annex 3.

CORE INDICATORS

Breastfeeding initiation

1. **Early initiation of breastfeeding:** Proportion of children born in the last 24 months who were put to the breast within one hour of birth

$$\frac{\text{Children born in the last 24 months who were put to the breast within one hour of birth}}{\text{Children born in the last 24 months}}$$

Notes:

- This indicator is based on historic recall. The denominator and numerator include living children and deceased children who were born within the past 24 months.
- It is recommended that the indicator be further disaggregated and reported for (i) live births occurring in the last 12 months; and (ii) live births occurring between the last 12 and 24 months.

Exclusive breastfeeding

2. **Exclusive breastfeeding under 6 months:** Proportion of infants 0–5 months of age who are fed exclusively with breast milk

$$\frac{\text{Infants 0–5 months of age who received only breast milk during the previous day}}{\text{Infants 0–5 months of age}}$$

Notes:

- This indicator includes breastfeeding by a wet nurse and feeding expressed breast milk. It was, however, thought simpler to retain the term "exclusive breastfeeding" rather than the more precise but cumbersome term "fed exclusively on breast milk". (For the definition of "exclusive breastfeeding" see Table 1.)
- This is the first in the series of current status indicators based on recall of the previous day and includes living infants. All indicators that follow, except "children ever breastfed", are also based on recall of the previous day.
- Using the previous day recall period will cause the proportion of exclusively breastfed infants to be overestimated, as some infants who are given other liquids irregularly may not have received them in the day before the survey.
- As with other indicators that are based on current status, exclusive breastfeeding is based on a cross section of children in a given age range, in this case children from birth to just

under 6 months of age. It therefore does not represent the proportion of infants who are exclusively breastfed *until just under* 6 months of age and *should not* be interpreted as such. It is generally accepted that the proportion of children who are exclusively breastfed *until just under* 6 months of age is lower than the number derived from the indicator of current status. For example, if there is a linear rate of decline in the proportion exclusively breastfed from 100% at birth to 20% at 6 months, the indicator value for exclusive breastfeeding under 6 months would be 60% (as compared to 20% still exclusively breastfed at 6 months). However, the indicator recommended in this document represents the best option for estimating exclusive breastfeeding and is more sensitive to capturing changes. If there is interest in identifying differences in proportions of infants exclusively breastfed over smaller age ranges, creation of figures such as shown in Annex 3, and disaggregation as suggested in the bullet below may provide such information.

- It is recommended that the indicator be further disaggregated and reported for the following age-groups: 0–1 months, 2–3 months, 4–5 months and 0–3 months.

Continued breastfeeding

3. **Continued breastfeeding at 1 year:** Proportion of children 12–15 months of age who are fed breast milk

$$\frac{\text{Children 12–15 months of age who received breast milk during the previous day}}{\text{Children 12–15 months of age}}$$

Notes:

- This indicator includes breastfeeding by a wet nurse and feeding expressed breast milk.
- The title of this indicator on continued breastfeeding reflects an approximation of the age range covered. Because of the age interval, the indicator underestimates the proportion of children breastfed at one year.
- Because the indicator has a relatively narrow age range of 4 months, estimates from surveys with small sample sizes are likely to have wide confidence intervals.

Introduction of complementary foods

4. **Introduction of solid, semi-solid or soft foods:** Proportion of infants 6–8 months of age who receive solid, semi-solid or soft foods

$$\frac{\text{Infants 6–8 months of age who received solid, semi-solid or soft foods during the previous day}}{\text{Infants 6–8 months of age}}$$

Notes:

- This indicator is one of the two parts of the previous composite indicator for timely complementary feeding, which also included continued breastfeeding (*1*).
- The previous indicator included living infants 6–9 months in the numerator and denominator. A narrower age range has been chosen so as not to include infants first receiving foods as late as 9 months in the numerator.
- Because the indicator has a very narrow age range of 3 months, estimates from surveys with small sample sizes are likely to have wide confidence intervals.
- Figures of infant feeding practices by age, as shown in Annex 3, provide additional information and are a useful illustration of the pattern of introduction of solid, semi-solid or soft foods in the population.

Dietary diversity

5. **Minimum dietary diversity:** Proportion of children 6–23 months of age who receive foods from 4 or more food groups

$$\frac{\text{Children 6–23 months of age who received foods from} \geq 4 \text{ food groups during the previous day}}{\text{Children 6–23 months of age}}$$

Notes:

- The 7 foods groups used for tabulation of this indicator are:
  - grains, roots and tubers
  - legumes and nuts
  - dairy products (milk, yogurt, cheese)
  - flesh foods (meat, fish, poultry and liver/organ meats)
  - eggs
  - vitamin-A rich fruits and vegetables
  - other fruits and vegetables
- Consumption of any amount of food from each food group is sufficient to "count", i.e., there is no minimum quantity, except if an item is only used as a condiment.[1]
- The cut-off of at least 4 of the above 7 food groups above was selected because it is associated with better quality diets for both breastfed and non-breastfed children (*10*). Consumption of foods from at least 4 food groups on the previous day would mean that in most populations the child had a high likelihood of consuming at least one animal-source food and at least one fruit or vegetable that day, in addition to a staple food (grain, root or tuber).
- Results may be reported separately for breastfed and non-breastfed children. However, diversity scores for breastfed and non-breastfed children should not be directly compared, because breast milk is not 'counted' in any of the above food groups. Breast milk is not counted because the indicator is meant to reflect the quality of the complementary food diet. As a consequence, this indicator may show 'better' results for children who are not breastfed than those who are breastfed in populations where formula and/or milk are commonly given to non-breastfed children.
- For the same reason, this indicator should not be used to compare populations that differ in prevalence of continued breastfeeding. This caution applies both to comparisons between different sub-populations at one point in time (e.g. urban versus rural comparisons) and the same population at different points in time (e.g. if continued breastfeeding has declined). The composite indicator (# 7 below) captures several different dimensions of feeding and can be used for comparisons across time and between populations with different rates in continued breastfeeding.
- It is recommended that the indicator be further disaggregated and reported for the following age groups: 6–11 months, 12–17 months and 18–23 months.

[1] More guidance is provided in the operational guide that is a companion to this document.

Meal frequency

6. **Minimum meal frequency:** Proportion of breastfed and non-breastfed children 6–23 months of age who receive solid, semi-solid, or soft foods (but also including milk feeds for non-breastfed children) the minimum number of times or more.

   The indicator is calculated from the following two fractions:

$$\frac{\text{Breastfed children 6–23 months of age who received solid, semi-solid or soft foods the minimum number of times or more during the previous day}}{\text{Breastfed children 6–23 months of age}}$$

   and

$$\frac{\text{Non-breastfed children 6–23 months of age who received solid, semi-solid or soft foods or milk feeds the minimum number of times or more during the previous day}}{\text{Non-breastfed children 6–23 months of age}}$$

   Notes:

   - Minimum is defined as:
     - 2 times for breastfed infants 6–8 months
     - 3 times for breastfed children 9–23 months
     - 4 times for non-breastfed children 6–23 months
     - "Meals" include both meals and snacks (other than trivial amounts[1]), and frequency is based on caregiver report.
   - This indicator is intended as a proxy for energy intake from foods other than breast milk.[2] Feeding frequency for breastfed children includes only non-liquid feeds and reflects the Guiding Principles[3] (*5*). Feeding frequency for non-breastfed children includes both milk feeds and solid/semi-solid feeds, and also reflects the Guiding Principles for these children (*7*).
   - It is recommended that the indicator be further disaggregated and reported for the following age groups: 6–11 months, 12–17 months and 18–23 months of age. Results may also be reported separately for breastfed and non-breastfed children.

Summary infant and young child feeding indicator

7. **Minimum acceptable diet:** Proportion of children 6–23 months of age who receive a minimum acceptable diet (apart from breast milk).

   This composite indicator will be calculated from the following two fractions:

$$\frac{\text{Breastfed children 6–23 months of age who had at least the minimum dietary diversity and the minimum meal frequency during the previous day}}{\text{Breastfed children 6–23 months of age}}$$

   and

$$\frac{\text{Non-breastfed children 6–23 months of age who received at least 2 milk feedings and had at least the minimum dietary diversity not including milk feeds and the minimum meal frequency during the previous day}}{\text{Non-breastfed children 6–23 months of age}}$$

[1] More guidance is provided in the operational guide that is a companion to this document.
[2] True energy intake is impossible to capture in simple surveys.
[3] Milk feeds are not included for breastfed children because the minimum meal frequencies in this indicator assume average breast milk intake, and if a substantial amount of energy from other milk is consumed, breast milk intake is likely to be considerably lower than average. Nevertheless, the actual intake of breastfed children who also receive milk feeds may be more than what is captured by this indicator.

Notes:

- For breastfed children, see indicators 5 and 6 above for "Minimum dietary diversity" and "Minimum meal frequency" definitions.
- For non-breastfed children, see indicator 6 above for definition of "Minimum meal frequency". The definition of "Minimum dietary diversity" is similar to the definition for indicator 5, but milk feeds are excluded from the diversity score for non-breastfed children when calculating "Minimum acceptable diet". This is because milk feeds are considered as a separate and required element for non-breastfed children in this multi-dimensional indicator. Exclusion of milk feeds from the diversity score here avoids "double-counting" of this food group and allows use of this indicator in comparisons – across space and time – between populations with different rates of continued breastfeeding.
- See indicator 15 below for the rationale for at least 2 milk feedings for non-breastfed children.
- It is recommended that the indicator be further disaggregated and reported for the following age groups: 6–11 months, 12–17 months and 18–23 months of age.

Consumption of iron-rich or iron-fortified foods

8. **Consumption of iron-rich or iron-fortified foods:** Proportion of children 6–23 months of age who receive an iron-rich food or iron-fortified food that is specially designed for infants and young children, or that is fortified in the home.

$$\frac{\text{Children 6–23 months of age who received an iron-rich food or a food that was specially designed for infants and young children and was fortified with iron, or a food that was fortified in the home with a product that included iron during the previous day}}{\text{Children 6–23 months of age}}$$

Notes:

- Suitable iron-rich or iron-fortified foods include flesh foods, commercially fortified foods specially designed for infants and young children that contain iron, or foods fortified in the home with a micronutrient powder containing iron or a lipid-based nutrient supplement containing iron.
- While this indicator assesses a critical aspect of nutrient adequacy of food intake, guidance on how best to operationalize the data collection is difficult to standardize. Further work is being undertaken to develop the questions to allow for its tabulation.
- It is recommended that the indicator be further disaggregated and reported for the proportion of children receiving flesh foods only and the proportion of children who consume some fortified food specially designed for infants and young children that contains iron (with or without flesh foods).
- It is also recommended that the indicator be further disaggregated and reported for the following age groups: 6–11 months, 12–17 months and 18–23 months of age.

OPTIONAL INDICATORS

Considering the need to limit the number of indicators and quantity of data to be collected to a minimum, it is proposed that the indicators described above are the most critical for population-based assessment and programme evaluation. However, to ensure continuity in monitoring of previously used indicators and recognizing that some programmes may wish to measure additional indicators, the following optional indicators are recommended:

Breastfeeding

9. **Children ever breastfed:** Proportion of children born in the last 24 months who were ever breastfed

$$\frac{\text{Children born in the last 24 months who were ever breastfed}}{\text{Children born in the last 24 months}}$$

Notes:

- This indicator is based on historic recall. The denominator and numerator include living and deceased children who were born within the past 24 months.
- It is recommended that the indicator be further disaggregated and reported for (i) live births occurring in the last 12 months; and (ii) live births occurring between the last 12 and 24 months.

10. **Continued breastfeeding at 2 years:** Proportion of children 20–23 months of age who are fed breast milk

$$\frac{\text{Children 20–23 months of age who received breast milk during the previous day}}{\text{Children 20–23 months of age}}$$

Notes:

- The title of this indicator on continued breastfeeding reflects an approximation of the age range covered.
- Because the indicator has a relatively narrow age range of 4 months, estimates from surveys with small sample sizes are likely to have wide confidence intervals.

11. **Age-appropriate breastfeeding:** Proportion of children 0–23 months of age who are appropriately breastfed

The indicator is calculated from the following two fractions:

$$\frac{\text{Infants 0–5 months of age who received only breast milk during the previous day}}{\text{Infants 0–5 months of age}}$$

and

$$\frac{\text{Children 6–23 months of age who received breast milk, as well as solid, semi-solid or soft foods, during the previous day}}{\text{Children 6–23 months of age}}$$

12. **Predominant breastfeeding under 6 months:** Proportion of infants 0–5 months of age who are predominantly breastfed

$$\frac{\text{Infants 0–5 months of age who received breast milk as the predominant source of nourishment during the previous day}}{\text{Infants 0–5 months of age}}$$

Notes:

- As the proportion of infants aged *just less than* 6 months who are exclusively breastfed may be quite low in some populations, the intent of this indicator is to identify infants whose predominant source of nourishment is breast milk, but who also receive other fluids. These include liquids, such as water-based drinks, fruit juice and ritual fluids. Non-human milk and food-based fluids are not allowed. Table 1 describes in detail the criteria of predominant breastfeeding
- An area graph as illustrated in Annex 3 provides the clearest illustration of various infant feeding practices and when used, can replace this indicator.

Duration of breastfeeding

13. **Duration of breastfeeding:** Median duration of breastfeeding among children less than 36 months of age

The age in months when 50% of children 0–35 months did not receive breast milk during the previous day

Note: The population median duration of breastfeeding is the only indicator that requires collection of data on feeding practices in children above 23 months of age and is calculated using current status data among all children less than 36 months of age.

Bottle feeding of infants

14. **Bottle feeding:** Proportion of children 0–23 months of age who are fed with a bottle.

$$\frac{\text{Children 0–23 months of age who were fed with a bottle during the previous day}}{\text{Children 0–23 months of age}}$$

Notes:

- Information on bottle feeding is useful because of the potential interference of bottle feeding with optimal breastfeeding practices and the association between bottle feeding and increased diarrhoeal disease morbidity and mortality. Bottles with a nipple are particularly prone to contamination. Included in the numerator of this indicator are children less than 24 months of age who received any food or drink from a bottle with a nipple/teat during the previous day (including breast milk), regardless of whether or not the infant was breastfed.
- It is recommended that this indicator be further disaggregated and reported for each of 3 age groups: 0–5 months, 6–11 months and 12–23 months.

Milk feeding frequency for non-breastfed children

15. **Milk feeding frequency for non-breastfed children:** Proportion of non-breastfed children 6–23 months of age who receive at least 2 milk feedings

$$\frac{\text{Non-breastfed children 6–23 months of age who received at least 2 milk feedings during the previous day}}{\text{Non-breastfed children 6–23 months of age}}$$

Notes:

- Milk feedings include liquid milk products such as infant formula, cow milk or other animal milk. The specific products to be included need to be defined for each target population, to take into account local milk products that are commonly fed to young children in substantial quantities (e.g. fermented dairy products).
- The minimum of 2 milk feedings was selected based on the following: Average energy intake from breast milk in developing countries is approximately 400 kcal/day between 6 and 11 months and 350 kcal/day between 12 and 23 months (*5*). For non-breastfed children, the dietary analysis results (*10*) indicated that 3 milk feedings per day would generally allow for an average intake of milk that is similar to this range (300–400 kcal from milk). Most children will probably not consume more than 180–240 mL of milk per feed, which would be equivalent to ~100–150 kcal/feed if consumed as liquid whole cow milk. Taking the upper end of this range (150 kcal/feed) and a slightly lower "target" for energy intake from milk than is consumed by breastfed children (300 kcal/day), a minimum of 2 milk feedings per day would be needed.
- It is recommended that the indicator be further disaggregated and reported for the following age groups: 6–11 months, 12–17 months and 18–23 months.

D. Operationalizing the indicators

Demographic and Health Surveys (DHS), Multiple Indicator Cluster Surveys (MICS) and Knowledge, Practice and Coverage (KPC) Surveys are important sources of information on infant and young child feeding practices for many countries. Based on a comparison of the proposed indicators and comparable indicators that are currently (up to November 2007) used in these surveys, participants identified and discussed a number of methodological differences in measurement between the various surveys. While secondary analyses of selected differences indicated that this might not lead to significantly different results, it was nevertheless considered critical to work towards further harmonization of methodologies for measuring the indicators. It was thus agreed to constitute a working group of measurement experts to develop an operational guide to complement this document. The guide will include questions to elicit information and address methodological issues related to sampling. The operational guide will be available as a published document from the partner agencies that have contributed to this publication.

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ANNEX 1A

Members of the Working Group on Infant and Young Child Feeding Indicators

The Working Group on Infant and Young Child Feeding Indicators was constituted in December 2002, following an informal meeting organized by WHO and hosted at the WHO Regional Office of the Americas. The Working Group had a permanent Steering Team and a large number of contributors who participated in various tasks. Principal investigators were responsible for data analysis from 10 sites that generated the evidence base for formulation of new indicators for children 6–23 months of age. Additional analysis was conducted at the International Food Policy Research Institute (*9*, *10*).

Members of the Steering Team were:

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An informal working group to update breastfeeding indicators was constituted in June 2007 and led by Chessa Lutter (Pan American Health Organization, World Health Organization). Other members of the informal working group were: Mary Arimond at IFPRI; Kathryn Dewey at UC Davis; Megan Deitchler at FANTA; Rae Galloway at the Infant and Young Child Nutrition (IYCN) Project; Monica Kothari at Macro International, PATH; Moazzem Hossein, Attila Hancioglu, Julia Krasevec, Nuné Mangasaryan and Tessa Wardlaw at UNICEF; André Briend, Bernadette Daelmans, Chika Hayashi, Peggy Henderson, Randa Saadeh, and Constanza Vallenas at WHO.

ANNEX 1B

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ANNEX 2

Summary list of indicators

Core indicators

1. Early initiation of breastfeeding
2. Exclusive breastfeeding under 6 months
3. Continued breastfeeding at 1 year
4. Introduction of solid, semi-solid or soft foods
5. Minimum dietary diversity
6. Minimum meal frequency
7. Minimum acceptable diet
8. Consumption of iron-rich or iron-fortified foods

Optional indicators

9. Children ever breastfed
10. Continued breastfeeding at 2 years
11. Age-appropriate breastfeeding
12. Predominant breastfeeding under 6 months
13. Duration of breastfeeding
14. Bottle-feeding
15. Milk feeding frequency for non-breastfed children

Top priorities for reporting among the core indicators

Since it may not always be feasible to report on all core indicators, the following four indicators are recommended in order of priority for two critical age groups, based on evidence of their positive association with child survival and/or nutrient intakes.

To assess breastfeeding practices in infants:

1. Exclusive breastfeeding under 6 months
2. Early initiation of breastfeeding

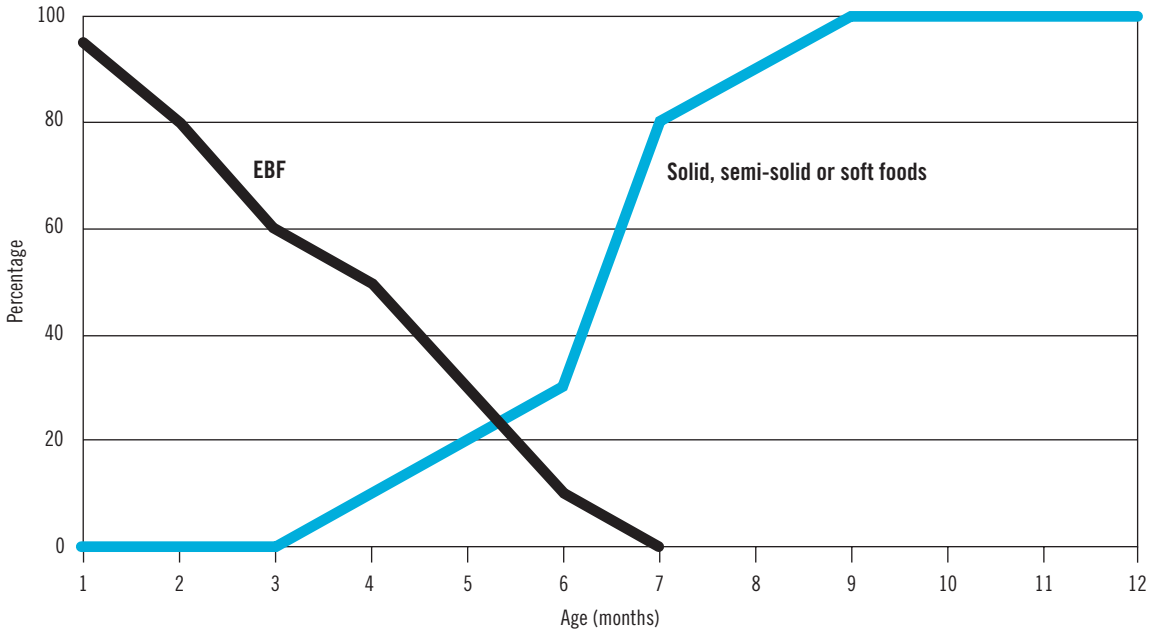
To assess feeding practices in children 6–23 months of age:

1. Minimum acceptable diet
2. Consumption of iron-rich or iron-fortified foods

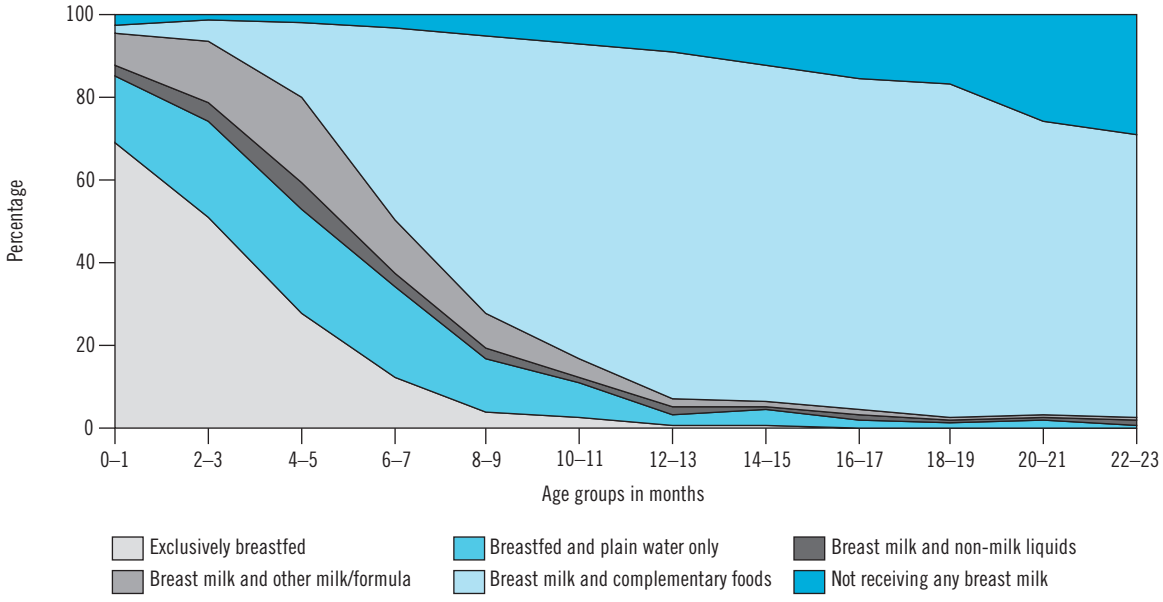
ANNEX 3

Examples of figures illustrating infant feeding practices by age group

Percentage of infants exclusively breastfed (EBF) and percentage receiving solid, semi-solid or soft foods



Infant feeding practices by age



This document summarizes new and updated indicators to assess infant and young child feeding. The analytic work providing the evidence for these indicators was supported through a partnership of the International Food Policy Research Institute (IFPRI), the Food and Nutrition Technical Assistance project (FANTA), Macro International, the University of California at Davis, the United States Agency for International Development (USAID), UNICEF and WHO. The document is the first in a series of three documents issued by WHO that also include an operational guide on measurement issues and an update on the indicator values for 54 countries using data from Demographic and Health Surveys. It is hoped that the indicators will be widely used in large-scale population-based surveys in countries to assess progress in the implementation of the Global Strategy for Infant and Young Child Feeding and to measure the coverage of effective nutrition interventions in young children.

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Indicators for assessing infant and young child feeding practices

PART 2
MEASUREMENT

USAID
FROM THE AMERICAN PEOPLE

AED

FANTA · 2
FOOD AND NUTRITION TECHNICAL ASSISTANCE

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Contents

Annexes

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- Mary Arimond, Program in International and Community Nutrition, University of California, Davis, USA; formerly International Food Policy Research Institute, Washington, DC, USA.
- Megan Deitchler, Food and Nutrition Technical Assistance II Project (FANTA-2), Academy for Educational Development (AED), Washington, DC, USA.
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- Attila Hancioglu and Holly Newby, Statistics and Monitoring Section, UNICEF, New York, USA.
- Julia Krasevec and Mandana Arabi, Nutrition Section, UNICEF, New York, USA.

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Acronyms

AED	Academy for Educational Development
BF	Breastfeeding or breastfed
DHS	Demographic and Health Surveys
FANTA-2	Food and Nutrition Technical Assistance II Project
FAO	Food and Agriculture Organization of the United Nations
HH	Household
IBF	Initiation of breastfeeding
IFF	Iron-fortified foods and products
IFPRI	International Food Policy Research Institute
IYCF	Infant and young child feeding
KPC	Knowledge, Practice, and Coverage Surveys
LNS	Lipid based nutrient supplement
MICS	Multiple Indicator Cluster Surveys
NRV	Nutrient Reference Value
ORS	Oral rehydration solution
PAHO	Pan-American Health Organization
RAE	Retinol activity equivalents
RE	Retinol equivalents
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WFP	World Food Programme
WHO	World Health Organization

Introduction

This document is a companion to the recently published *Indicators for assessing infant and young child feeding practices. Part 1: Definitions* (*1*). The new set of indicators reflects current guidance on breastfeeding, complementary feeding, and feeding of non-breastfed infants and young children less than 2 years of age (*2*, *3*). Readers are referred to *Part 1* for a discussion of the background, justification, uses, limitations, and definition of the following set of eight core and seven optional indicators:

Core indicators

1. Early initiation of breastfeeding
2. Exclusive breastfeeding under 6 months
3. Continued breastfeeding at 1 year
4. Introduction of solid, semi-solid or soft foods
5. Minimum dietary diversity
6. Minimum meal frequency
7. Minimum acceptable diet
8. Consumption of iron-rich or iron-fortified foods

Optional indicators

9. Children ever breastfed
10. Continued breastfeeding at 2 years
11. Age-appropriate breastfeeding
12. Predominant breastfeeding under 6 months
13. Duration of breastfeeding
14. Bottle feeding
15. Milk feeding frequency for non-breastfed children

This guide on measurement provides tools for collection and calculation of the indicators. Like the indicators, this guide is intended primarily for use by large-scale surveys; the tools provided herein should be of use to the managers of such surveys. The guide covers topics that are specific to data collection for the infant and young child feeding (IYCF) indicators, and does not cover other related survey research topics comprehensively; many other general sources of guidance are available.[1] The sections that follow present:

- A. An example questionnaire
- B. Example interviewer instructions
- C. Suggestions for adapting the questionnaire to the survey context
- D. Instructions for calculating indicator values

Sections A–D are followed by several Annexes, which provide additional technical guidance as well as references to more comprehensive resources on selected topics.

[1] See, for example, Gorstein J, Sullivan KM, Parvanta I, Begin F. *Indicators and Methods for Cross-Sectional Surveys of Vitamin and Mineral Status of Populations*. The Micronutrient Initiative (Ottawa) and the Centers for Disease Control and Prevention (Atlanta), May 2007.

- Annex 1: Sampling considerations
- Annex 2: Review of issues related to age data
- Annex 3: Alternate method for collecting information on food groups consumed
- Annex 4: Sample liquid and food group list
- Annex 5: Instructions for calculating duration of breastfeeding

This guide is informed by past experience with several large-scale survey programs (the Demographic and Health Surveys (DHS) and the UNICEF Multiple Indicator Cluster Surveys (MICS)) as well as with smaller-scale surveys implemented by many non-governmental organizations (for example, the Knowledge, Practice and Coverage (KPC) Surveys).[1] For some indicators, recent surveys implemented by the Nutrition and Consumer Protection Division of the Food and Agriculture Organization of the United Nations (FAO) have provided insights (*4*).

For some indicators (for example, Indicator #1, *Early initiation of breastfeeding*), measurement methods are extremely simple and have been used consistently across many surveys for years. For some newer indicators, measurement experience is thin or evolving. However, sufficient experience is available to provide a basis for concrete recommendations for operationalizing most indicators.

The example questionnaire in this guide was developed for situations where the objective is to calculate all core and optional indicators.[2] The questionnaire could be simplified when this is not the case; this is discussed in Section C on adapting the example questionnaire.

[1] Demographic and Health Surveys: http://www.measuredhs.com/; Multiple-Indicator Cluster Surveys: http://www.unicef.org/statistics/index_24302.html; Knowledge, Practice, and Coverage Surveys: http://www.childsurvival.com/kpc2000/kpc2004.cfm, all accessed February 12, 2010.

[2] The exception to this is the optional indicator "Duration of breastfeeding". This indicator requires sampling of a wider age range of children. See Annexes 1 and 5 for further explanation.

A. An example questionnaire

This section provides an example questionnaire to collect data for the IYCF indicators. Example interviewer instructions follow in Section B.

The questionnaire modules must be adapted, but should provide a very useful starting point for survey managers. Questionnaires will need to be adapted in two ways.

First, in most cases questions on infant and young child feeding will be part of a larger survey, with multiple objectives. The example questionnaire will need to be integrated into the larger survey, with attention to interview flow and order of modules, respondent burden, and other considerations. The example questionnaire may need to be reformatted in harmony with survey conventions, and appropriate identifying information should be added (for example, geographic location of households, household identification numbers, etc.). These adaptations are survey-specific and are not covered in this guide.

The second type of adaptation (and, closely related, translation) aims to ensure that the intent of each question is correctly operationalized in national or local settings. Section C provides guidance on this second type of adaptation, giving detailed suggestions on which items need to be adapted, and how. Section C also outlines how the questionnaire can be simplified, as, for example, when only a subset of the indicators will be calculated.

The example questionnaire begins on the next page and is comprised of three modules:

- Household Roster
- Initiation of breastfeeding (IBF) module
- Infant and young child feeding (IYCF) module.

HOUSEHOLD ROSTER

Please tell me the name and sex of each person who lives here, starting with the head of the household.

LIST THE HEAD OF THE HOUSEHOLD IN LINE 1. LIST THE NAMES OF ALL HOUSEHOLD MEMBERS (Q2). THEN ASK:

Does anyone else live here, even if they are not at home now? These may include children in school or household members at work.

IF YES, COMPLETE LISTING. THEN, COLLECT INFORMATION STARTING WITH (Q4) FOR EACH MEMBER, ONE PERSON AT A TIME. ADD A CONTINUATION SHEET IF THERE ARE MORE THAN 10 HOUSEHOLD MEMBERS. TICK HERE IF CONTINUATION SHEET WAS USED ☐

Line #	Name	Is ***(NAME)*** male or female? *1=MALE 2=FEMALE*		Please tell me how old ***(NAME)*** is. How old was ***(NAME)*** on his/her last birthday? *RECORD AGE IN COMPLETED YEARS 98=DK (ONLY FOR ≥50 YEAR OLDS)*	Eligible for		
					Initiation of breastfeeding module	Infant and young child feeding module (under 3 year olds)	
					CIRCLE LINE NUMBER IF HH MEMBER IS A WOMAN AGED BETWEEN 15 AND 49 YEARS	*CIRCLE LINE NUMBER IF HH MEMBER IS UNDER 3 YEARS*	*FOR EACH CHILD UNDER 3:* Who is the primary caregiver of ***(NAME)***? *RECORD LINE NUMBER OF CAREGIVER.*
(1)	(2)	(3) Male	(3) Female	(4)	(5)	(6)	(7)
1		1	2	|___|___|	1	1	|___|___|
2		1	2	|___|___|	2	2	|___|___|
3		1	2	|___|___|	3	3	|___|___|
4		1	2	|___|___|	4	4	|___|___|
5		1	2	|___|___|	5	5	|___|___|
6		1	2	|___|___|	6	6	|___|___|
7		1	2	|___|___|	7	7	|___|___|
8		1	2	|___|___|	8	8	|___|___|
9		1	2	|___|___|	9	9	|___|___|
10		1	2	|___|___|	10	10	|___|___|

Are there any other persons living here – even if they are not members of your family or do not have parents living in this household? Including children at work or at school?

IF YES, INSERT PERSON'S NAME UNDER Q2, ASK Q3 AND Q4 AND COMPLETE THE FORM.
THEN, COMPLETE THE TOTALS BELOW.

	WOMEN 15–49 YEARS (FROM Q5 ABOVE	*CHILDREN UNDER 3 YEARS (FROM Q6 ABOVE)*
TOTALS (TOTAL NUMBER ELIGIBLE PER MODULE)	|___|___|	|___|___|

FOR EACH WOMAN AGE 15–49 YEARS, WRITE HER NAME AND LINE NUMBER IN THE INFORMATION PANEL OF THE INITIATION OF BREASTFEEDING MODULE.

FOR EACH CHILD UNDER 3 YEARS OF AGE, WRITE HIS/HER NAME, LINE NUMBER AND THE NAME AND LINE NUMBER OF HIS/HER PRIMARY CAREGIVER (USUALLY THE MOTHER) IN THE INFORMATION PANEL OF THE INFANT AND YOUNG CHILD FEEDING MODULE.

A SEPARATE INITIATION OF BREASTFEEDING MODULE NEEDS TO BE COMPLETED FOR EACH ELIGIBLE WOMAN AND A SEPARATE INFANT AND YOUNG CHILD FEEDING MODULE NEEDS TO BE COMPLETED FOR EACH ELIGIBLE CHILD.

INITIATION OF BREASTFEEDING MODULE

INFORMATION PANEL

(*This information is entered after identifying eligible women from the Household Roster*)

Woman's Name *(FROM COLUMN 2 OF HOUSEHOLD ROSTER)*: _____

Woman's Line Number *(CIRCLED IN COLUMN 5 OF HOUSEHOLD ROSTER)*: |___|___|

THIS MODULE IS TO BE ADMINISTERED TO WOMEN IDENTIFIED IN THE HOUSEHOLD ROSTER TO BE BETWEEN 15 AND 49 YEARS OF AGE. A SEPARATE MODULE MUST BE COMPLETED FOR EACH ELIGIBLE WOMAN.

VERIFY THAT YOU ARE SPEAKING WITH THE CORRECT RESPONDENT BY CHECKING THAT THE RESPONDENT'S NAME IS THE SAME AS THE NAME LISTED IN THE INFORMATION PANEL ABOVE.

IF THE PERSON YOU ARE SPEAKING WITH IS NOT THAT INDIVIDUAL, ASK TO SPEAK WITH THE CORRECT RESPONDENT.

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1	In what month and year were you born?	MONTH ..... |___|___| *IF MONTH IS NOT KNOWN, ENTER '98'* YEAR ..... |___|___||___|___| *IF YEAR IS NOT KNOWN, ENTER '9998'*	
2	Please tell me how old you are. What was your age at your last birthday? *RECORD AGE IN COMPLETED YEARS.*	Age in Completed Years ..... |___|___|	
3	*CHECK Q1 AND Q2: IS THE RESPONDENT BETWEEN THE AGES OF 15 AND 49 YEARS? IF THE INFORMATION IN Q1 AND Q2 CONFLICTS, DETERMINE WHICH IS MOST ACCURATE.*	YES ..... 1 NO 2	→ END MODULE
4	I would like to ask you about pregnancies and births that you may have had. Have you ever been pregnant? *IF 'NO' PROBE BY ASKING:* Were you ever pregnant, even this pregnancy did not result in the birth of a live child?	YES ..... 1 NO 2	→ END MODULE
5	Have you ever given birth? *IF 'NO' PROBE BY ASKING:* I mean, to a child who ever breathed or cried or showed other signs of life – even if he or she lived only a few minutes or hours?	YES ..... 1 NO 2	→ END MODULE
6	When was the last time you gave birth (even if your child is no longer living)? *IF THE RESPONDENT DOES NOT KNOW THE BIRTHDATE ASK:* Do you have a health/vaccination card for that child with the birthdate recorded? *IF THE HEALTH/VACCINATION CARD IS SHOWN, RECORD THE DATE OF BIRTH AS DOCUMENTED ON THE CARD.*	Date of last birth DAY ..... |___|___| *IF DAY IS NOT KNOWN, ENTER '98' ABOVE* MONTH ..... |___|___| YEAR ..... |___|___||___|___|	
7	*CHECK Q6: DID THE RESPONDENT'S LAST BIRTH OCCUR WITHIN THE LAST 2 YEARS, THAT IS, SINCE (**DAY AND MONTH OF INTERVIEW, YEAR XXXX**)?* ***[FOR XXXX, INSERT THE YEAR CORRESPONDING TO 2 YEARS PRIOR THE YEAR OF THE INTERVIEW]*** *YES, LIVE BIRTH SINCE (DAY AND MONTH OF INTERVIEW, YEAR XXXX)* |___| GO TO Q8 *NO LIVE BIRTH SINCE (DAY AND MONTH OF INTERVIEW, YEAR XXXX)* |___| END MODULE		
8	What is the name of your child who was born on ***(DATE INDICATED IN Q6)***?	Name: _____	
9	Is ***(NAME)*** a male or female?	MALE ..... 1 FEMALE 2	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
10	Did you ever breastfeed ***(NAME)***?	YES ..... 1 NO 2	→ END MODULE
11	How long after birth did you first put ***(NAME)*** to the breast? *IF RESPONDENT REPORTS SHE PUT THE INFANT TO THE BREAST IMMEDIATELY AFTER BIRTH, CIRCLE '000' FOR 'IMMEDIATELY'.* *IF LESS THAN 1 HOUR, CIRCLE '1' FOR HOURS AND RECORD '00' HOURS.* *IF LESS THAN 24 HOURS, CIRCLE '1' AND RECORD NUMBER OF COMPLETED HOURS, FROM 01 TO 23.* *OTHERWISE, CIRCLE '2' AND RECORD NUMBER OF COMPLETED DAYS.*	IMMEDIATELY ..... 000 ***OR*** HOURS ..... 1 |___|___| ***OR*** DAYS ..... 2 |___|___|	

INFANT AND YOUNG CHILD FEEDING MODULE

INFORMATION PANEL

(This information is entered after identifying eligible children from the Household Roster)

NAME OF CHILD *(FROM COLUMN 2 OF HOUSEHOLD ROSTER)*: _____

SEX OF CHILD *(FROM COLUMN 3 OF HOUSEHOLD ROSTER)* (1=Male; 2=Female): |___|

LINE NUMBER OF CHILD *(CIRCLED IN COLUMN 6 OF HOUSEHOLD ROSTER)*: |___|___|

LINE NUMBER FOR CAREGIVER OF CHILD *(FROM COLUMN 7, FAR RIGHT COLUMN OF HOUSEHOLD ROSTER)*: |___|___|

NAME OF CAREGIVER *(FROM COLUMN 2 OF HOUSEHOLD ROSTER)*: _____

THIS MODULE IS TO BE ADMINISTERED TO THE CAREGIVER (USUALLY THE MOTHER) OF CHILDREN RECORDED IN THE HOUSEHOLD ROSTER AS LESS THAN THREE YEARS OF AGE.

A SEPARATE MODULE SHOULD BE COMPLETED FOR EACH ELIGIBLE CHILD.

VERIFY THAT YOU ARE SPEAKING WITH THE CORRECT RESPONDENT BY:

1. *CHECKING THAT THE RESPONDENT'S NAME IS THE SAME AS THE NAME OF CAREGIVER LISTED IN THE INFORMATION PANEL ABOVE.*
2. *CHECKING THAT THE RESPONDENT IS THE PRIMARY CAREGIVER (WHICH IS USUALLY THE MOTHER) OF **(NAME)**.*

IF THE PERSON YOU ARE SPEAKING WITH IS NOT THAT INDIVIDUAL, ASK TO SPEAK WITH THE CORRECT RESPONDENT.

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1	I would like to ask you some questions about ***(NAME)***. In what month and year was ***(NAME)*** born? What is his/her birthday? *IF THE RESPONDENT DOES NOT KNOW THE EXACT BIRTHDATE ASK:* Does ***(NAME)*** have a health/vaccination card with the birthdate recorded? *IF THE HEALTH/VACCINATION CARD IS SHOWN AND THE RESPONDENT CONFIRMS THE INFORMATION IS CORRECT, RECORD THE DATE OF BIRTH AS DOCUMENTED ON THE CARD.*	DAY ..... |___|___| *IF DAY IS NOT KNOWN, ENTER '98'* MONTH ..... |___|___| YEAR ..... |___|___||___|___|	
2	How old was (***NAME***) at his/her last birthday? *RECORD AGE IN COMPLETED YEARS.*	LESS THAN 1 YEAR ..... 0 1 YEAR ..... 1 2 OR MORE YEARS 2	
3	How many months old is (***NAME***)? *RECORD AGE IN COMPLETED MONTHS.*	Age in completed months ..... |___|___|	
4	*CHECK QUESTIONS 1, 2 AND 3 TO VERIFY CONSISTENCY* *A) IS THE YEAR RECORDED IN Q1 CONSISTENT WITH AGE IN YEARS RECORDED IN Q2?* *B) ARE YEAR AND MONTH OF BIRTH RECORDED IN Q1 CONSISTENT WITH AGE IN MONTHS RECORDED IN Q3?* *IF THE ANSWER TO 4A OR 4B IS 'NO', RESOLVE ANY INCONSISTENCIES. IF THE BIRTHDATE WAS RECORDED ON A HEALTH CARD, THIS MAY BE USED AS THE CORRECT DATA SOURCE.*	YES ..... 1 NO ..... 2 YES ..... 1 NO 2	
5	*CHECK QUESTION 3. IS THE CHILD LESS THAN 24 MONTHS?*	YES ..... 1 NO ..... 2 DON'T KNOW 8	 → END MODULE → END MODULE

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
6	Has ***(NAME)*** ever been breastfed?	YES ..... 1 NO ..... 2 DON'T KNOW 8	 → GO TO 7a → GO TO 7a
7	Was ***(NAME)*** breastfed yesterday during the day or at night?	YES ..... 1 NO ..... 2 DON'T KNOW 8	→ GO TO 8
7a[1]	Sometimes babies are fed breast milk in different ways, for example by spoon, cup or bottle. This can happen when the mother cannot always be with her baby. Sometimes babies are breastfed by another woman, or given breast milk from another woman by spoon, cup or bottle or some other way. This can happen if a mother cannot breastfeed her own baby. Did ***(NAME)*** consume breast milk in any of these ways yesterday during the day or at night?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
8	Now I would like to ask you about some medicines and vitamins that are sometimes given to infants. Was ***(NAME)*** given any vitamin drops or other medicines as drops yesterday during the day or at night?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
9	Was ***(NAME)*** given [*LOCAL NAME FOR ORS*] yesterday during the day or at night?	YES ..... 1 NO ..... 2 DON'T KNOW 8	

READ THE QUESTIONS BELOW. READ THE LIST OF LIQUIDS ONE BY ONE AND MARK YES OR NO, ACCORDINGLY. AFTER YOU HAVE COMPLETED THE LIST, CONTINUE BY ASKING QUESTION 11 (SEE FAR RIGHT HAND COLUMN) FOR THOSE ITEMS (10B, 10C, AND/OR 10F) WHERE THE RESPONDENT REPLIED 'YES'.

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES				QUESTIONS AND CODING CATEGORIES
10	Next I would like to ask you about some liquids that ***(NAME)*** may have had yesterday during the day or at night. Did ***(NAME)*** have any ***(ITEM FROM LIST)***?: *READ THE LIST OF LIQUIDS STARTING WITH 'PLAIN WATER'.*		YES	NO	DK	11 How many times yesterday during the day or at night did ***(NAME)*** consume any ***(ITEM FROM LIST)***?: *READ QUESTION 11 FOR ITEMS B, C, AND F IF CHILD CONSUMED THE ITEM.* *RECORD '98' FOR DON'T KNOW.*
A	Plain water?	A	1	2	8	
B	Infant formula such as [**insert local examples**]?	B	1	2	8	B. TIMES |___|___|
C	Milk such as tinned, powdered, or fresh animal milk?	C	1	2	8	C. TIMES |___|___|
D	Juice or juice drinks?	D	1	2	8	
E	Clear broth?	E	1	2	8	
F	Yogurt?	F	1	2	8	F. TIMES |___|___|
G	Thin porridge?	G	1	2	8	
H	Any other liquids such as [**list other water-based liquids available in the local setting**]?	H	1	2	8	
I	Any other liquids?	I	1	2	8	

[1] Question 7a is shaded because it is an optional question. See Section C "Suggestions for adapting the questionnaire to the survey context".

12	Please describe everything that ***(NAME)*** ate yesterday during the day or night, whether at home or outside the home. a) Think about when ***(NAME)*** first woke up yesterday. Did ***(NAME)*** eat anything at that time? *IF YES*: Please tell me everything ***(NAME)*** ate at that time. *PROBE:* Anything else? *UNTIL RESPONDENT SAYS NOTHING ELSE. IF NO, CONTINUE TO QUESTION b).* b) What did ***(NAME)*** do after that? Did ***(NAME)*** eat anything at that time? *IF YES:* Please tell me everything ***(NAME)*** ate at that time. *PROBE:* Anything else? *UNTIL RESPONDENT SAYS NOTHING ELSE*. *REPEAT QUESTION b) ABOVE UNTIL RESPONDENT SAYS THE CHILD WENT TO SLEEP UNTIL THE NEXT DAY.* *IF RESPONDENT MENTIONS MIXED DISHES LIKE A PORRIDGE, SAUCE OR STEW, PROBE:* c) What ingredients were in that ***(MIXED DISH)***? *PROBE:* Anything else? *UNTIL RESPONDENT SAYS NOTHING ELSE.* *AS THE RESPONDENT RECALLS FOODS, UNDERLINE THE CORRESPONDING FOOD AND CIRCLE '1' IN THE COLUMN NEXT TO THE FOOD GROUP. IF THE FOOD IS NOT LISTED IN ANY OF THE FOOD GROUPS BELOW, WRITE THE FOOD IN THE BOX LABELED 'OTHER FOODS'. IF FOODS ARE USED IN SMALL AMOUNTS FOR SEASONING OR AS A CONDIMENT, INCLUDE THEM UNDER THE CONDIMENTS FOOD GROUP.* *ONCE THE RESPONDENT FINISHES RECALLING FOODS EATEN, READ EACH FOOD GROUP WHERE '1' WAS NOT CIRCLED, ASK THE FOLLOWING QUESTION AND CIRCLE '1' IF RESPONDENT SAYS YES, '2' IF NO AND '8' IF DON'T KNOW:* Yesterday during the day or night, did ***(NAME)*** drink/eat any ***(FOOD GROUP ITEMS)***?

	OTHER FOODS: *PLEASE WRITE DOWN OTHER FOODS IN THIS BOX THAT RESPONDENT MENTIONED BUT ARE NOT IN THE LIST BELOW:*

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES			
			YES	NO	DK
A	Porridge, bread, rice, noodles, or other foods made from grains	A	1	2	8
B	Pumpkin, carrots, squash, or sweet potatoes that are yellow or orange inside	B	1	2	8
C	White potatoes, white yams, manioc, cassava, or any other foods made from roots	C	1	2	8
D	Any dark green leafy vegetables	D	1	2	8
E	Ripe mangoes, ripe papayas, or (**insert other local vitamin A-rich fruits**)	E	1	2	8
F	Any other fruits or vegetables	F	1	2	8
G	Liver, kidney, heart, or other organ meats	G	1	2	8
H	Any meat, such as beef, pork, lamb, goat, chicken, or duck	H	1	2	8
I	Eggs	I	1	2	8
J	Fresh or dried fish, shellfish, or seafood	J	1	2	8
K	Any foods made from beans, peas, lentils, nuts, or seeds	K	1	2	8
L	Cheese, yogurt, or other milk products	L	1	2	8
M	Any oil, fats, or butter, or foods made with any of these	M	1	2	8
N	Any sugary foods such as chocolates, sweets, candies, pastries, cakes, or biscuits	N	1	2	8
O	Condiments for flavor, such as chilies, spices, herbs, or fish powder	O	1	2	8
P	Grubs, snails, or insects	P	1	2	8
Q	Foods made with red palm oil, red palm nut, or red palm nut pulp sauce	Q	1	2	8
Check categories A–Q		*IF ALL 'NO'*: → GO TO 13 *IF AT LEAST ONE 'YES' OR ALL 'DK':* → GO TO 14			

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
13	Did ***(NAME)*** eat any solid, semi-solid, or soft foods yesterday during the day or at night? *IF 'YES' PROBE:* What kind of solid, semi-solid, or soft foods did ***(NAME)*** eat?	YES ..... 1 *GO BACK TO Q12 AND RECORD FOODS EATEN. THEN CONTINUE WITH Q14* NO ..... 2 DON'T KNOW 8	 → GO TO 15 → GO TO 15
14	How many times did ***(NAME)*** eat solid, semi-solid, or soft foods other than liquids yesterday during the day or at night?	NUMBER OF TIMES ..... |___|___| DON'T KNOW 98	
15	Did ***(NAME)*** drink anything from a bottle with a nipple yesterday during the day or night?	YES ..... 1 NO ..... 2 DON'T KNOW 8	

Additional questions to append to infant and young child feeding module

The questions on the next page relate to consumption of iron fortified foods and products. These questions have been separated from Q1-15 of the IYCF module because they are in an early stage of development and have not been field-tested.

Questions on iron-fortified foods and products are necessary in order to calculate a value for Indicator #8 (*Consumption of iron-rich or iron-fortified foods*).

Given that this indicator may be of particular relevance to some countries, there may be a desire to collect information on consumption of iron-fortified foods and products in surveys before a standard set of field-tested questions can be recommended. The questions on the next page can be considered for use until the time when standard field-tested questions can be recommended. Care should be taken to adapt the proposed questions to the local context and special attention given during pre-testing and translation of the questionnaire.

Consumption of iron-fortified foods and products

IFF Q1, IFF Q2, IFF Q3, and IFF Q4 can be used to collect information about the consumption of iron fortified foods and products by children less than two years of age. These questions can easily be incorporated into the IYCF module by appending them after Q15.

All of these questions require significant in-country adaptation. The **[bold text]** in square brackets will need to be adapted by the survey manager prior to interviewer training. The bold text should be replaced by a list of all of the iron-fortified food items specially designed for infants and young children and/or the specific names of the iron-fortified products available in the survey setting. Local names for the foods and products should be used. After inserting the list of these items into IFF Q1, IFF Q2, IFF Q3, and IFF Q4, the bold font should be changed to regular font in the questionnaires to indicate to the interviewer to read the list of items to the respondent. For example, for IFF Q3, a locally adapted version of the question in one country may read "Yesterday, during the day or night, did ***(NAME)*** consume any Plumpy'Nut™?"

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
IFF Q1	Now I would like to ask you about some particular foods ***(NAME)*** may eat. I am interested in whether your child had the item even if it was combined with other foods. Yesterday, during the day or night, did ***(NAME)*** consume any [**list iron fortified solid, semi-solid or soft foods designed specifically for infants and young children available in the local setting**]?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
IFF Q2	Yesterday, during the day or night, did ***(NAME)*** consume any food to which you added a [**powder or sprinkles**] like this? *SHOW COMMON TYPES OF MICRONUTRIENT POWDERS AVAILABLE IN SURVEY AREA.*	YES ..... 1 NO ..... 2 DON'T KNOW 8	
IFF Q3	Yesterday, during the day or night, did ***(NAME)*** consume any [**list lipid based nutrient supplement (LNS) available in the local setting**]? *SHOW COMMON TYPES OF LNS AVAILABLE IN SURVEY AREA.*	YES ..... 1 NO ..... 2 DON'T KNOW 8	
IFF Q4	Yesterday, during the day or night, did ***(NAME)*** consume any [**list iron fortified infant/toddler formulas available in the local setting**]?	YES ..... 1 NO ..... 2 DON'T KNOW 8	

B. Example interviewer instructions

General instructions are followed by question-by-question instructions for each module.

General interviewer instructions

Asking questions and recording answers

It is very important that you ask each question exactly as it is written on the questionnaire. If the respondent does not understand the question, you may need to use extra probing questions. Probing questions are included in the questionnaire and are also discussed during interviewer training. It is important that all interviewers use the same probing questions.

In some cases, a respondent may truly not know the answer to a question or refuse to answer a question. However, you must record an answer for all questions that you ask the respondent. Do not leave any questions blank because it may look as though you forgot to ask the question. Some questions have a "don't know" answer code. You can circle that code if the respondent is unable to remember despite the probing questions. For other questions, there is not a "don't know" answer code. For these questions, if the respondent truly cannot remember despite your probing, or refuses to answer, you should leave the question blank and write a comment on the questionnaire, in the margin on the right. The margins should also be used to make notes on anything out of the ordinary or any problems you may encounter during the interview.

Throughout the questionnaire, there are statements that appear in *ALL CAPITAL LETTERS AND ITALIC FONT*. These are interviewer instructions, and should not be read aloud to the respondent.

Underlined letters in bold font indicate that you should replace the text with information that the respondent has already given you. For example in the IYCF module ***(NAME)*** will often appear in bold and underlined font. Here, ***(NAME)*** indicates that the text in parentheses needs to be replaced by the name of the child for the module.

Most questions have pre-coded responses. It is important that you do not read these choices aloud. When you ask a question, you should listen to the respondent's answer, then circle the code next to the pre-coded response that best matches her answer.

Skip patterns

It is very important that you ask the respondent only those questions relevant to her situation. For certain questions, you will skip to the next appropriate question, or end the module, if the respondent gives a particular response. For example, in the IBF module, question 10 is "Did you ever breastfeed ***(NAME)***?" If the respondent answers "no" to this question, then she should not be asked question 11 ("How long after birth did you first put ***(NAME)*** to the breast?"). Skip instructions are usually located in the far right-hand column of the questionnaire.

Interviewer instructions: administering the household roster

The Household Roster is designed to collect information about the sex and age of all members of each household. Information for the Household Roster is usually collected from the head of the household.

The first step in completing the Household Roster is to request a list of all persons who usually live in the household. During interviewer training the definition of a household will be discussed, along with the criteria that must be met for an individual to be considered a member of that household. You will need to determine whom to include in the household and whom to leave out based on the specific definition of household that is being used for the survey. These definitions can vary depending on the setting and cultural context of the survey.

Q1: Line number

In the first column of the Household Roster, each row is pre-assigned a unique number. This number is referred to as the line number. It is used to identify the person listed on that row and to link all information collected in later survey modules to that individual.

Q2: Name of household member

After recording the name, sex, and age of the household head, ask for and record the name, sex and age of all other household members (columns 2, 3 and 4).

Q3: Sex of household member

Always ask the sex of a person before recording it since there are many names that may be given to either a male or female.

Q4: Age of household member

Obtain each person's age in completed years. Age in completed years is the person's age at the time of their last birthday. Completed age is also defined as the number of completed solar years since birth. With this definition, since a 6-month-old infant has not completed a full solar year, his/her age will be entered as "00". Note: later in the interview, you will obtain more accurate estimates for children under 3 years of age.

This column should never be left blank.

If you have difficulty obtaining the ages of very elderly members of the household, you may enter the code "98", meaning "Don't know/at least 50 years". For household members younger than 50 years, completed ages must be entered.

The information in the Household Roster can be useful for many reasons, but is particularly important for identification of respondents in the household who meet the eligibility criteria for each module included in the questionnaire. The eligibility criteria for the IBF and IYCF module are listed below.

- An eligible respondent for the IBF module is a woman from 15–49 years of age.[1]
- An eligible respondent for the IYCF module is the primary caregiver (or mother) of a child less than 3 years of age; children less than 3 years of age are also identified on the roster as "eligible".

Qs 5 and 6: Interviewer check for respondent eligibility

Questions 5 and 6 are not asked of the respondent. These two columns of the Household Roster are used to identify the household members that meet the eligibility criteria for each module. In Q5, circle the line number of each household member identified as a woman between the ages of 15 and 49 years old. In Q6, circle the line number of each household member identified as a child under 3 years of age.

[1] Throughout this document, the following convention is used for age ranges: women from 15–49 years include those who have reached their 15th birthday but have not yet reached their 50th birthday (i.e., it indicates 15.0–49.9 years).

Q7: Identification of primary caregiver (or mother) of child under 3 years

Question 7 is asked of the respondent. For the purpose of this module, the primary caregiver is the person who knows the most about how and what the child is fed. Usually (but not always) this will be the child's mother. The caregiver identified in Q7 is the individual who is asked the questions about the child under 3 years in the IYCF module. Record the line number of the caregiver for each child meeting the eligibility criteria. Note that a separate IYCF module is administered for each child under 3 years in the household.

Last probe for household members

When you have completed the listing of all household members and all questions in the Household Roster, probe to see if there are any other household members you have not included in the list: "Are there any other persons living here – even if they are not members of your family or do not have parents living in this household? Including children at work or at school?" If "yes", insert the individual's name and complete the form.

Totaling columns 5–7 at the bottom of the Household Roster

After you have made sure that there are no other household members to be included in the list, complete the row at the bottom of the household list, *"TOTALS"*. Sum the number of eligible women in the household and record the number under *"WOMEN 15–49 YEARS"*. Sum the number of children under three years of age, and record the number under *"CHILDREN UNDER 3 YEARS"*.

The numbers recorded here for the women 15–49 years and children under 3 years tell you the number of IBF modules and the number of IYCF modules you should complete for that household.

For example: If three women between the ages of 15 and 49 years are listed in the Household Roster, the IBF module should be administered three times, once with each woman 15–49 years in the household.

Similarly, if three children under 3 years are listed in the Household Roster, the IYCF module should be administered three times, each time collecting information about a different child. Depending on who is identified as the primary caregiver (or mother) of each child (Q7), the IYCF modules may need to all be administered to the same respondent, or may need to be administered to different respondents.

When an individual is identified in the Household Roster as meeting the eligibility criteria for either the IBF module or the IYCF module, complete the information panel at the top of the corresponding module.

For example, in the case that there are three women 15–49 years and three children under 3 years listed in the Household Roster, a total of three information panels would need to be completed for the IBF module and a total of three information panels would need to be completed for the IYCF module.

Interviewer instructions: administering the initiation of breastfeeding module

Selecting the respondent(s) for this module

The questions in the IBF module are asked of female household members identified in the Household Roster as age 15–49 years. A separate IBF module should be administered to each individual identified in the Household Roster in this age group.

Before starting with Q1, verify that you are speaking with the correct respondent. The respondent's name should be the same as the name listed in the information panel. If the respondent is not the individual identified in the information panel, you should ask to speak with the correct respondent.

Privacy

Some of the questions in the module are very sensitive, concerning children who may have died. It is important to try to find the most private space possible for asking the questions in this module.

Q1: Birthdate of respondent

Age, as identified from Q1 and Q2, is used to confirm if the woman is eligible for this module.

Questions in this module regarding birthdate and age must be asked independently of the information on the Household Roster. Even if you already asked the respondent her age when you were completing the Household Roster, you must ask again for her date of birth and age when administering the IBF module.

If the respondent knows her month and year of birth, write it in the appropriate spaces for "Month" and "Year". You will need to convert the month into numbers.

If the month or day contains only one digit, use a leading zero to fill in the first space.

Examples:	For January	record "01"
	For February	record "02"
	For March	record "03", etc.

If she does not know her month of birth, enter "98", indicating "don't know" month and ask her for the year of her birth. If she knows the year, write it in the spaces for "Year". Try under all circumstances to obtain at least the year of birth. If the respondent is unable to provide this information, ask whether she has any documentation such as an identification card, horoscope, or a birth or baptismal certificate that might give her date of birth. If such documentation is available, ask the woman if the information on the document(s) is correct. Do not enter "9998" (indicating "don't know" for year) *unless it is absolutely impossible to estimate the year of birth*.

Q2: Age of respondent

You must ask Q2 even if the woman provided her birthdate in response to Q1. If the woman knows her age, write it in the space provided. If the woman does not know her age, you will need to use one of the following methods to estimate her age.

(a) If the woman does not know her age, and year of birth is reported in Q1, compute the woman's age as follows:

- *Already celebrated birthday in the current year.* If the woman has had her birthday in the current year, subtract the year of birth from the current year.
- *Not yet celebrated birthday in the current year.* If the woman has not yet had her birthday in the current year, subtract the year of birth from last year.
- *Does not know her birthday.* If the woman does not keep track of the time within a year when her birthday falls, it is sufficient to subtract the year of birth from the current year.

(b) If the woman does not know her age, and year of birth is not reported in Q1, probe for clues to estimate her age. There are several ways to probe for age:

- Ask the respondent how old she was when she got married or had her first child, and then try to estimate how long ago she got married or had her first child. EXAMPLE: If she says she was 19 years old when she had her first child and that the child is now 12 years old, she is probably 31 years old.
- Relate her age to that of someone else in the household whose age is more reliably known.
- Try to determine how old she was at the time of an important event such as war, flood, earthquake, change in political regime, etc. and add her age at that time to the number of years that have passed since the event.

(c) The woman does not know her age, year of birth is not reported in Q1 and probing did not help:

- If probing does not help in determining the respondent's age and year of birth is not recorded in Q1, you will have to estimate her age. Remember, this is a last resort to be used only when all your efforts at probing have failed.

Q3: Interviewer check

Question 3 is not asked of the respondent. This question requires that you check the respondent's answers to previous questions to verify if the respondent is eligible (of the correct age) for the survey module.

Check the responses given in Q1 and Q2. Before moving on to the next question, verify that the respondent is at least 15 but no more than 49 years of completed age. If the information in Q1 conflicts with the information in Q2, discuss further and probe to determine which information is most likely to be correct.

If the woman is younger than 15 years or older than 49 years, you will need to end the interview. Do this tactfully by thanking the respondent and asking her if she can find the next person you need to interview.

Q4: Information about pregnancy

Question 4 asks if the respondent has ever been pregnant, whether or not that pregnancy resulted in a live birth. In some settings, a pregnancy not resulting in the birth of a child may not be considered a pregnancy. For this reason, if a respondent says "no" to Q4, probe by asking: "Were you ever pregnant, even if this pregnancy did not result in the birth of a live child?" If her answer is still "no", you need to end the interview. Do this tactfully by thanking the respondent and asking her if she can find the next person you need to interview.

Q5: Information about births

The purpose of Q5 is to find out whether the respondent has ever had a live birth in her lifetime. In some settings, a respondent may not consider a child who later died a birth. If a respondent says "no" to Q5, you should probe by asking: "By births I mean to a child who has ever breathed or cried or showed other signs of life – even if he or she lived only a few minutes or hours." If her answer is still "no", you need to end the interview. Do this tactfully by thanking the respondent and asking her if she can find the next person you need to interview.

Q6: Date of birth

Question 6 asks the respondent to report the day, month, and year of her most recent birth.

If she knows the exact birthdate, including the day, enter the day of birth.

If she does not know the exact day of birth, you can enter "98", indicating "don't know" for day. You do not need to probe further for day of birth.

Convert the month to a number (refer to instructions and examples above for Q1).

Note that you are **not** allowed to enter "don't know" for month or year of birth. *You must obtain month and year for the respondent's last birth.*

If the respondent is unable to provide the date of her most recent birth, ask whether she has any documentation such as an identification card, health card, horoscope, or a birth or baptismal certificate that might give the date of her last birth. Confirm with the respondent that the date of birth recorded on such documents is indeed correct. You can also use a local events calendar to help determine the birthdate, if such a calendar has been developed for the survey. If one is available you will be taught how to use the calendar during your training.

Q7: Interviewer check

In this module, we are only interested in collecting information about births that occurred within two years of the date of the interview.

Once the date of the respondent's most recent live birth is determined in Q6, use the calendar tool in Annex 2 (page 60) to identify if the birth was within the last two years. Follow the instructions on the top of the calendar. The calendar tool provides a visual method. You do not need to calculate the child's exact age at this time.

If the respondent's most recent birth is within the last two years continue with Q8. If the respondent's most recent birth was not within the last two years, you will need to end the interview. Do this tactfully by thanking the respondent and asking her if she can find the next person you need to interview.

Q8: Name of child

Ask the respondent the name given to that child and record this name in Q8 before continuing to Q9. You will need the child's name to ask subsequent questions. If the respondent gave birth to multiple children at one time (for example, twins, triplets), record the last born child in Q8. In case the infant died as a newborn and was not given a name, write "no name" in the space for name.

Q9: Sex of child

Ask the respondent the sex of the child and record this in Q9. Always ask the sex of the infant before recording it since there are many names that may be given to either a male or female.

Q10: Child ever breastfed

For this question it does not matter how long the respondent breastfed the child, only whether or not she ever gave the child the breast (even if the baby died very young). It does not matter whether or not the mother's milk had arrived at the time she gave the child the breast.

Q11: Initiation of breastfeeding

This question asks about when the child was first put to the breast. For this question, it also does not matter whether or not the mother's milk had arrived at the time of first putting the child to the breast.

If the respondent reports that she put the infant to the breast immediately after birth, circle "000."

Otherwise, record the time in completed hours or days. If less than 1 hour, circle "1" for hours and record "00" hours. If less than 24 hours, circle "1" and record the number of completed hours that passed between time of birth and first putting the child to the breast. Otherwise, circle "2" and record the number of completed days.

For example, if the woman said she began breastfeeding within 10 minutes of the birth, circle "1" for HOURS and record "00" hours.

How long after birth did you first put ***(NAME)*** to the breast? *IF RESPONDENT REPORTS SHE PUT THE INFANT TO THE BREAST IMMEDIATELY AFTER BIRTH, CIRCLE '000' FOR 'IMMEDIATELY'.* *IF LESS THAN 1 HOUR, CIRCLE '1' FOR HOURS AND RECORD '00' HOURS.* *IF LESS THAN 24 HOURS, CIRCLE '1' AND RECORD NUMBER OF COMPLETED HOURS, FROM 01 TO 23.* *OTHERWISE, CIRCLE '2' AND RECORD NUMBER OF COMPLETED DAYS.*	IMMEDIATELY ..... 000 ***OR*** HOURS ..... 1 | **0** | **0** | ***OR*** DAYS ..... 2 |___|___|

For example, if the woman said she began breastfeeding about 3 hours after the birth, circle "1" for HOURS and record "03" hours.

How long after birth did you first put ***(NAME)*** to the breast? *IF RESPONDENT REPORTS SHE PUT THE INFANT TO THE BREAST IMMEDIATELY AFTER BIRTH, CIRCLE '000' FOR 'IMMEDIATELY'.* *IF LESS THAN 1 HOUR, CIRCLE '1' FOR HOURS AND RECORD '00' HOURS.* *IF LESS THAN 24 HOURS, CIRCLE '1' AND RECORD NUMBER OF COMPLETED HOURS, FROM 01 TO 23.* *OTHERWISE, CIRCLE '2' AND RECORD NUMBER OF COMPLETED DAYS.*	IMMEDIATELY ..... 000 ***OR*** HOURS ..... 1 | **0** | **3** | ***OR*** DAYS ..... 2 |___|___|

For example, if the baby was first breastfed 30 hours after delivery, circle "2" for DAYS and record "01" days.

How long after birth did you first put ***(NAME)*** to the breast? *IF RESPONDENT REPORTS SHE PUT THE INFANT TO THE BREAST IMMEDIATELY AFTER BIRTH, CIRCLE '000' FOR 'IMMEDIATELY'.* *IF LESS THAN 1 HOUR, CIRCLE '1' FOR HOURS AND RECORD '00' HOURS.* *IF LESS THAN 24 HOURS, CIRCLE '1' AND RECORD NUMBER OF COMPLETED HOURS, FROM 01 TO 23.* *OTHERWISE, CIRCLE '2' AND RECORD NUMBER OF COMPLETED DAYS.*	IMMEDIATELY ..... 000 ***OR*** HOURS ..... 1 |___|___| ***OR*** DAYS ..... 2 | **0** | **1** |

Interviewer instructions: administering the infant and young child feeding module

Selecting the respondent(s) for this module

The purpose of the IYCF module is to find out how and what the child is fed. Therefore, for the purpose of this module, the primary caregiver is the person who knows the most about how and what the child is fed. Usually (but not always) this will be the child's mother. The primary caregiver for each eligible child is identified on the Household Roster and the caregiver's line number and name are recorded at the top of this module.

Complete a separate IYCF module for each child in the Household Roster who is less than 3 years of age. If there are two or more eligible children in the household and these children have different caregivers (or mothers), ask the module of each caregiver (or mother).

First, verify that you are speaking with the correct respondent. The respondent should be the primary caregiver (which is usually the mother) of the child listed in the information panel. If the respondent is not the person identified in the information panel, you should ask to speak with the correct respondent.

Qs 1, 2 and 3: Date of birth and age of child

You will begin the interview with questions about the child's date of birth and age. These are very important questions in the interview, since analysis of the data depends on the child's exact age.

We need to obtain accurate information on the child's *age in months*. You will collect this information by learning the child's date of birth. Later, the child's age in months will be calculated by comparing the child's date of birth to the date of the interview.

The questions on age and date of birth must be asked independently from similar questions on the Household Roster and IBF Module. The person you interview for this module may be the same woman you interviewed for the IBF Module, and you may have obtained date of birth for the child in that questionnaire. Also, you may have obtained the child's age in the Household Roster. Even in such cases, you must ask these questions again.

For this module, we are only interested in collecting information about children less than two years of age. On the Household Roster, all children under 3 years were identified, and information panels were filled for each of these children. This is because often the household head is the

respondent for the Household Roster. This person may not always know the exact age of children. The primary caregiver of the child (the respondent for this module) will usually be able to report the date of birth of the child with the most accuracy. That is why questions about age are asked again.

In Q1, the caregiver is asked the day, month, and year when the child was born.

- If the caregiver knows the exact birthdate, including the day, enter the day of birth.
- If she does not know the exact day of birth, you can enter "98", indicating "don't know" for day. You do not need to probe further for day of birth.
- Convert the month to a number (you can refer to instructions and examples above for Q1 on the IBF module).
- Note that you are **not** allowed to enter "don't know" for month or year of birth. *You have to obtain the month and year of the child's birth.*
- If the respondent is unable to provide the date of the child's birth, ask whether she has any documentation such as an identification card, health card, horoscope, or a birth or baptismal certificate that might give the date of her last birth. Confirm with the respondent that the date of birth recorded on such documents is indeed correct.
- You can also use a local events calendar to help determine the birthdate, if such a calendar has been developed for the survey. If one is available you will be taught how to use the calendar during your training.

Question 2 asks about the child's age in completed years and Q3 asks about the child's age in completed months.

Examples: A child who will soon turn 3 years (36 months) would be recorded as being 2 years of age in Q2 and 35 months in Q3.

A child who is 2 weeks old would be recorded as being 0 years of age in Q2 and 0 months of age in Q3.

If the caregiver does not know the current age of the child, try asking "How many years ago was ***(NAME)*** born?" You may help the respondent by relating the child's age to that of other children or to some important event or to the season of birth, by asking, for example, "How many wet seasons ago was ***(NAME)*** born?"; "In what season was ***(NAME)*** born?".

Qs 4 and 5: Interviewer check for age consistency and eligibility

After the respondent has answered Q1, Q2 and Q3, check that the age of the child in completed years (Q2) is correct based on the birthdate provided by the respondent (Q1). Also, check that the age of the child in completed months (Q3) is correct based on the birthdate provided by the respondent (Q1).

If the responses to Q1 and Q2 are inconsistent, or the responses to Q1 and Q3 are inconsistent, you will need to determine the source of the inconsistency, and correct the responses, accordingly.

If the birthdate was recorded from a health card or other documented source and the respondent confirms that the recorded information is accurate, this should generally be accepted as correct and the number of completed years (Q2) and number of completed months (Q3) should be adjusted accordingly.

Use the calendar tool in Annex 2 (page 60) to identify eligible children (those under two years of age). Follow the instructions on the top of the calendar. The calendar tool provides a visual method to determine if the child is eligible.

If the child is 24 months (2.0 years) of age or older, you need to end the interview. Do this tactfully by thanking the respondent and asking her if she can find the next person you need to interview.

Q6: Child ever breastfed

Question 6 asks if the child has ever been breastfed. For this question it does not matter how long the respondent breastfed the child, only whether or not she ever gave the child the breast. If the respondent answers "yes" to Q6, continue to Q7. If the respondent answers "no" or "don't know" to Q6, skip to Q7a.

Q7: Child currently being breastfed

Question 7 asks if the child was breastfed in the day or night preceding the interview. If the respondent answers "no" or "don't know", continue to the next Q7a. If the respondent answers "yes" to Q7, skip to Q8.

Q7a: Alternative breast milk feeding question

Question 7a is only used if the respondent tells you either: 1) the child was never breastfed; 2) the child was not breastfed yesterday; or 3) the respondent does not know whether or not the child was breastfed.

Question 7a helps us find out if the child was given breast milk some other way, rather than being breastfed by the mother. Sometimes it is not possible for the mother herself to breastfeed her child and alternate feeding methods are used to provide breast milk to the child.

Question 7a asks whether the child received breast milk yesterday (day or night) in the following ways:

- Child was breastfed by someone other than the mother.
- Child was given breast milk expressed by the mother and fed by spoon, cup, or some other way.
- Child was given breast milk expressed by someone other than the mother (and fed by spoon, cup, etc.).

Qs 8–13: Medicines, liquids and foods given yesterday

The main purpose of Q8 through Q13 is to learn if the child is being exclusively breastfed and to obtain a better picture of the diversity (number of different food groups) and quality of the child's diet.

Questions 8 and 9 ask about vitamin/mineral or medicine drops, and about oral rehydration solutions. You will ask if the child consumed any of these the previous day.

In Q10, you will ask the caregiver about different types of liquids the child may have consumed the day before the interview (yesterday during the day or at night). It is extremely important to ask about all the different kinds of liquids listed. This is because if a child consumed any of the liquids listed in Q10, that child was not exclusively breastfed.

Read the question slowly and then read through each item A-I in the list. Wait for the response after each item and record whether the child consumed the liquid or not. Although not always considered a liquid, yogurt is included in the list of liquids here because we want to ask about the frequency of feeding for certain milk-based liquids and foods in Q11.

After completing Q10, go to Q11 in the far right-hand column of the module. Question 11 asks about the number of times the child consumed milk-based liquids yesterday. Ask Q11 just as it is written.

Question 11 is asked separately for: infant formula; milk such as tinned, powdered, or fresh animal milk; and yogurt. Information about frequency is only collected for those items (B, C, and/or F) for which the caregiver replied "yes" in Q10. For Q11B, record the number of times the child drank infant formula. For Q11C, record the number of times the child drank any type of animal milk. For Q11F, record the number of times the child consumed any type of yogurt, whether liquid yogurt or a yogurt that is thicker in consistency.

You may need to use probes to help the caregiver remember all the times the child consumed each of the items yesterday. Probing methods for this question should be discussed during interviewer training.

Question 12 asks about the different types of foods the child ate the day before the interview. The approach used for collecting information about the child's diet is a 24-hour "free recall" by the respondent.[1] Help the respondent to recall what the child ate the day before, as follows:

1. Begin with asking about the first food eaten by the child the previous day. Use neutral questions, such as those provided in Q12, to help the respondent remember the child's activities on the previous day. Begin with the first events/activities in the morning and help the caregiver recall events in order through the day. This helps ensure that she remembers all of the foods the child ate at various times throughout the day and night.
2. You should **not** ask the respondent about specific meals (for example, do not ask – what did ***(NAME)*** eat for breakfast yesterday – or what did ***(NAME)*** eat yesterday morning) – as such questions assume that the child ate breakfast or ate in the morning. If you ask that way, the caregiver might feel like she should report something, even if the child did not eat. The series of neutral questions provided in Q12 guide you through a non-biased interview.
3. As the respondent recalls the foods, underline the corresponding food (if listed) in Q12 and circle "1" in the column to the right of the food group.
4. If foods are used in small amounts for seasoning or as a condiment, these should be included under the condiments food group. For example, if the respondent mentions that she used a few dried chilies to season a pot of stew fed to the child, the chilies would be included in the condiment food group, not the vegetables group.
5. If a food is not listed in any of the existing food groups, write the name of the food in the box labeled "other foods", located above item A. These foods should not be coded into a food group at the time of the interview. A supervisor will decide how to code these foods later.
6. Probe for added foods in mixed dishes such as porridges, stews and sauces. If the caregiver says the child ate a mixed dish, ask about and underline all the ingredients of the dish using the probe provided in Q12 ("What ingredients were in that ***(MIXED DISH)***?" *Probe:* "Anything else?" *until the respondent says* "nothing else"). Do not ask "leading questions" as this may result in biased results; for example, do **not** ask – "didn't you add any meat to your sauce?" This may lead the caregiver to report cooking with meat, even if she did not have any.
7. Once the recall is finished, ask the respondent about the food groups remaining in Q12 where no food has already been underlined. Circle "1" in the right hand column of the questionnaire if the respondent is reminded of a food in that group eaten by the child. Circle "2" in the right hand column of the questionnaire if she confirms that no foods in that group were eaten by the child yesterday. Circle "8" in the right hand column if the respondent does not know if the child ate any food in that group.

At the end of Q12 there is an "interviewer check". Before continuing, review responses for all food groups in Q12A–12Q. If there is at least one food group where "1" ("yes") is circled, skip to Q14. If "2" ("no") is circled for all food groups, continue with Q13.

Question 13 asks if the child ate any solid, semi-solid or soft food yesterday during the day or at night. This question is only asked if none of food groups A through Q are reported by the caregiver during the free recall. This question is used to verify that the child really had no such foods the previous day. If the caregiver responds "no" or "don't know", skip to Q15.

However, if the caregiver responds "yes" this means that one or more foods were missed during the free recall. If she says "yes", probe for the type of food and go back and correct Q12. Make a

[1] Instructions for administering question 12 using an alternative list-based method are provided in Annex 3.

note in the margin to explain to your supervisor that the food was missed during the recall. This situation is very unusual and will not happen often.

Q14: How many times the child ate yesterday

This question asks about how many times the child ate solid, semi-solid or soft foods yesterday. Ask the caregiver the question just as it is written. In many instances, the respondent will automatically indicate the number of times and you can record this directly in the questionnaire.

You may need to use probes to help the respondent remember all the times the child ate yesterday. Probing for this question will be discussed during interviewer training. Solid, semi-solid, or soft foods include family foods, and also many special dishes prepared for infants and young children. Thick soups and stews should be included. Thick paps and porridges are also included. Very thin, watery soups and gruels should not be included because infants and young children do not get enough energy (calories) from very thin soups and gruels. Liquids do not count for this question. Also, very small snacks, such as a bite or two of someone else's food, should not be counted.

Q15: Bottle use

Question 15 asks whether the child drank anything from a bottle with a nipple yesterday, including breast milk.

C. Suggestions for adapting the questionnaire to the survey context

This document provides an example questionnaire designed to be appropriate in a wide variety of countries and social contexts. Questions have been carefully formulated to ensure that responses are valid and that results from different surveys are comparable. Therefore, modifications to the questionnaire should be made with caution. Nonetheless, modification is always necessary to:

- Adapt certain questions to the country or regional context;
- Translate the questionnaire into local language(s).

In particular, questions that relate to foods or products must always be adapted to reflect foods/products available in the survey area(s). In order to ensure proper adaptation of the questionnaire, the general guidelines below should be considered.

Guidance on adapting the questionnaire is followed by a discussion of ways to simplify the questionnaire, for example when only a subset of the indicators will be calculated.

To adapt the questionnaire:

1) Involve local expertise

Working in partnership with in-country nutrition experts ensures that the questionnaire is appropriately adapted for the particular country/area where fieldwork will be conducted. Furthermore, this encourages broad acceptance and support of the survey.

There are a variety of ways to involve local expertise, including:

- Discussing the overall survey design and content at stakeholder meetings.
- Hosting a series of questionnaire adaptation working groups.
- Visiting local NGOs and academic/research institutions to get input.

2) Identify necessary changes

There are several very sensitive questions in the IBF module (IBF Qs 4–6). These questions include probes about infants who may have died. These questions may need to be adapted to maximize cultural acceptability of the wording.

Certain questions in the IYCF module must always be reviewed and modified:

- IYCF Q10 and Q12 on liquids and foods consumed in the previous 24 hours;
- IFF Qs 1–4 on iron-fortified products and products for home fortification of foods (if used).

In addition, during the adaptation process the survey manager should consult local experts and decide whether or not the question on feeding of expressed breast milk and on wet nursing is appropriate (IYCF Q7a); this question should be retained or dropped as indicated.

The question on feeding frequency (IYCF Q14) may also require adaptation. It will certainly require careful discussion during training to ensure that interviewers understand the intent of the question and to develop one or more standard, appropriate probing questions.

In the following pages, suggestions for adapting IYCF Q10/Q12 and IFF Qs 1–4 – which must always be adapted – are followed by suggestions for IYCF Q7a and IYCF Q14.

Depending on survey context, scale, and purposes, users may determine that other changes are also required, to the questionnaire and/or interviewer instructions.

3) Ensure that the original meaning of each question is maintained

The questionnaire adaptation process must ensure that the meaning of each question remains the same as originally intended. In order to preserve the original meaning, a number of steps should be followed:

- Carefully **review the interviewer instructions** that accompany the example questionnaire in this document. In many cases, the instructions include clarification of the purpose of the question.
- Conduct a **group review** of the questions that includes discussions of key concepts and local context, and consensus on any new language. Group review also provides an opportunity to discuss and agree on standard probes for questions.
- **Pretest** the adapted questionnaire, and follow-up with any further modifications as indicated.
- Ensure **careful translation** of the questions into the local language(s) using commonly understood words (vs. formal language or jargon). There are different translation approaches, such as group translation and back translation. In all cases, more than one person should be involved in the translation process. Furthermore, translators should have knowledge of nutrition and familiarity with how people commonly talk about food; professional translators will not necessarily have this expertise.

Adapting lists of liquids and foods (IYCF Q10 and Q12)

What people eat varies by geography, wealth and custom. Therefore, IYCF Q10 and Q12 must be reviewed and modified before each survey to reflect commonly consumed liquids and foods. These questions must be adapted with caution, to ensure that all commonly consumed liquids and foods are identified and categorized correctly into the liquid/food groups listed on the example questionnaire. If it is known that certain foods/groups are not eaten by anyone in the survey area, they can be deleted from the questionnaire.[1]

Survey managers should have good understanding of the food groups needed to calculate the indicators. For example, because of the nutrient density and nutritional importance of animal-source foods, dairy, eggs, and flesh foods each are counted as a separate point for Indicator #5, *Minimum dietary diversity*. Therefore, these food groups cannot be combined on the questionnaire, and should each be included separately even if they are rarely consumed.

Information from the liquid and food lists is used to construct two of the core indicators: Indicator #2, *Exclusive breastfeeding under 6 months* and Indicator #5, *Minimum dietary diversity*. *Minimum dietary diversity*, in turn, is one component of Indicator #7, *Minimum acceptable diet*.

When adapting the liquid and food lists, it is critical to include all special liquids and foods that may be given to infants under 6 months of age. Otherwise, estimates of prevalence of exclusive breastfeeding may be biased (inflated).

To gather data for the Indicator #5, *Minimum dietary diversity*, liquid and food items are grouped. Categorization of items into groups is not always straightforward. Therefore this document provides some guidance in this section and provides an extensive sample liquid and food group list in Annex 4.

[1] Note that the instructions for calculating indicators included with this document refer to question numbering in the example questionnaire. If any items added or dropped, or the ordering of items is modified, it will be necessary to adjust the calculations accordingly.

Some key steps for proper adaptation of the IYCF Q10 and Q12 include:

- **Consult nutrition experts**: Consult knowledgeable in-country partners, ideally nutritionists at the Ministry of Health, national nutritional institute, and/or university. As noted this can also increase the acceptance of results; good processes can also contribute to local capacity to undertake surveys.
- **Use the sample list of common foods** (Annex 4): The list provided with this document categorizes common foods and also offers the rationale for grouping foods. The sample list is a good starting point for work with local experts.
- **Consult existing adapted food lists:** In some countries various organizations may have already undergone an exercise of creating specific food lists for other surveys. For example, these can be found in DHS questionnaires. In some countries, WFP or FAO surveys have included dietary diversity modules. However, always double-check any existing list to ensure proper adaptation.
- **Include all common names for items:** Because beverage and food names can vary significantly, even in the same language, care should be taken during translation. If a popular food has more than one common name, consider including several names in the questionnaire. Note also that the same local name can signify different things – at times, foods called by the same name in two different places are very different, and can actually belong in different food groups. Therefore it is useful to discuss the liquid and food groups listed in IYCF Q10 and Q12 with individuals familiar with local names used throughout the survey area.
- **Adaptation of training/materials for interviewers**: During training, it will be important to discuss the complexities of asking about food in different parts of the country. This will include issues such as common regional dishes, foods that are specific to particular regions and variations in the names of common foods.
- **Include a copy of the modified sample food list** (retaining all foods that are available in the country) in the interviewer's manual.

Certain liquid and food groups pose challenges or need special consideration in consultations with local experts:

Liquids (IYCF Q10)

Q10D – Juice or juice drinks: Juice and juice drinks are listed together because it is usually very difficult to distinguish between them in the field. Juices and juice drinks are "allowed" under the definition of predominant breastfeeding. Vitamin A-rich juices are a special case. If consultations with local experts suggest that 1) vitamin A-rich juices such as mango juice or carrot juice are commonly consumed by infants/young children *and* 2) these can be distinguished by interviewers and mothers from non-nutritious juice drinks, these drinks could be added as a separate category, and the indicator calculation instructions adjusted accordingly. See also comments on vitamin A-rich foods below.

Q10E – Clear broth: Clear broths are also allowed under predominant breastfeeding as they are essentially water-based drinks. Soups that are thickened in any way or include solid pieces of food should not be included here.

Q10F – Yogurt: Yogurt is included as a separate food item under IYCF Q10 because it can be considered a "milk feed" and because thin, liquid yogurt is fed to infants and young children in some countries. However, the question is intended to capture all types of yogurt, not just thin, liquid yogurt. Be sure to use all common local names for yogurt, including specific types of yogurt that are given to infants and young children. Yogurt is also included under Q12 because it may be that information on yogurt eaten in mixed dishes will only emerge during the recall of foods. From the point of view of indicator calculation, there is no problem with having yogurt occur in two places (both Q10 and Q12; see instructions for calculating indicator values). Note that soy yogurt

should not be included in this category, but rather grouped with legumes on Q12. Soy products do not provide the same nutrient profile as animal milk products.

In some countries, there are products which may be called yogurt, but actually are sweet drinks containing very little yogurt. These should not be listed under Q10F, but instead should be in an added item for sweet drinks (see below). If both types of products (100% yogurts, and highly sweetened drinks) are common in the survey area, survey managers will need to judge whether it will be possible to distinguish between them. If not, it may be necessary to decide where to categorize these drinks based on local knowledge of which are more commonly consumed by the sampled population.

Q10G – Thin porridge: Thin porridges or gruels are often the first semi-solid foods given to infants, including infants less than 6 months of age. They are included as a specific item under Q10. Any type of thin porridge should be counted here, regardless of main ingredient (for example, it may be grain-based, root/tuber based, etc.). In many countries, there are different terms for different consistencies of porridge. Use local terms for thin porridges that are usually fed to infants, remembering to include different local terms that may be used in different parts of the country. Thick porridge (for example, as usually eaten by older children and adults) should be included with the grain or root/tuber food groups in Q12, as appropriate.

As with yogurts, from the point of view of indicator calculation, there is no problem with having porridge occur in two places. Thin porridges are included under Q10 to ensure that these "first foods" are not missed; capturing these is critical to accurate assessment of exclusive breastfeeding. But thick, stiff porridge, given as family food, is more likely to be captured under Q12.

Q10H – Any other liquids such as [list other water-based liquids]: Water-based drinks are allowed under predominant breastfeeding. If there are other specific water-based liquids that are fed to infants and/or young children in particular, these should be specified here ("any other liquids, such as …"). Alternatively, they can be listed as separate line items under Q10.[1] For example, in some countries, infants and young children are given special herbal infusions or ritual fluids, which may or may not be consumed by older children or adults. Some of these may be given as prelacteal feeds. Other examples of water-based liquids include black coffee or tea with no milk.

Liquids, other prelacteals to add to list: If there are any other milk- or food-based liquids consumed by infants and young children, they should be added to the list as separate items, as they are not allowed under the definition of predominant breastfeeding. The plan for calculating indicator values should then be amended accordingly. For example, small amounts of probiotic products are advocated for infants in some countries, and should also be listed as separate items here. Similarly, any other foods given as prelacteals (for example, fats or oils) can be added to the list since they are not allowed under exclusive or predominant breastfeeding. Although fats are also listed under Q12, mothers very likely will not think of prelacteals as "food" and may not report them under Q12.

"Problem liquids": When coffee and tea are given to infants and young children, there can be confusion over where to classify the liquid. Although large amounts of coffee and tea would not be recommended for infants and young children, from the point of view of the questionnaire this is mainly an issue in regard to calculating the indicator for predominant breastfeeding. The definition of predominant breastfeeding allows water-based liquids, so a clear tea, for example, could be allowed.

However, non-human milks are not allowed, so tea with milk is not allowed under predominant breastfeeding. We advise that in cultures where the drink is given as clear coffee or tea, it should be added to the list as such ("clear tea, no milk"). It can be listed under item H as an "other water-based liquid" or it can be listed separately, if there is interest in the proportion of children consuming it.

[1] If items are added as new questions, separate from "any other liquids", the indicator calculation instructions should be adjusted accordingly.

Where milk is given in coffee and tea, it should be added as a separate item, and the instructions for calculating the predominant breastfeeding indicator should be adapted accordingly. When the quantity of milk added is typically small, this is the only indicator affected. However, in some situations tea or coffee are given with large amounts of milk or prepared entirely with milk, with the tea or coffee as the minor flavoring ingredient. In these situations tea (or coffee, or cocoa) should also be counted as milk feeds (i.e., IYCF Q11 should also be asked for this item). Instructions for calculating several indicators will need to be adapted.

Foods (IYCF Q12)

Vitamin A-rich foods: Several food groups are intended to include only vitamin A-rich plant foods. Note that these include foods naturally rich in vitamin A, and not fortified products such as vitamin A-fortified oil.[1] These groups are:

- B. pumpkin, carrots, squash, or sweet potatoes that are yellow or orange inside;
- D. any dark green leafy vegetables;
- E. ripe mangoes, ripe papayas (or any other locally available vitamin A-rich fruits);
- Q. foods made with red palm oil, red palm nut, red palm nut pulp sauce.

Experience with previous surveys has shown that classification into the vitamin A-rich fruit and vegetables groups can be challenging. The sample food list provided with this document (Annex 4) should be very helpful for this task.

For the first group above (IYCF Q12B), note that dark yellow or orange-fleshed sweet potatoes are extremely high in vitamin A, while white-fleshed sweet potatoes (commonly eaten, for example, in many parts of Africa) have little or no vitamin A.

For the second group (IYCF Q12D), note that most medium to dark green leafy vegetables are high in vitamin A. For many local greens and wild greens that are not on the sample list, nutrient content data may be unavailable or unreliable. In this case, greens can be included in this group if they are medium to dark in color. Light green leaves and most other green vegetables should **not** be included on this list and instead should be listed with "other fruits and vegetables" (see Annex 4).

For the third group above (vitamin A-rich fruits, IYCF Q12E) note that ripe papaya, and especially ripe mango, are rich in vitamin A, while "green" (unripe) mango and papaya are not. This should be emphasized in food lists and interviewer training wherever these fruits are sometimes eaten unripe. For local and wild fruits, as with greens, nutrient content data may be unavailable or unreliable. In this case, fruits should be classified with "other fruits and vegetables".

For items not on the sample list: when reliable nutrient data is available on local greens and/or fruits, they can be classified as vitamin A-rich if they contain at least 120 retinol equivalents (RE) per 100 grams (equivalent to 60 retinol activity equivalents (RAE) for plant foods).[2]

[1] The IYCF indicators include an indicator for consumption of iron-rich or iron-fortified foods (#8), but do not include indicators related to consumption of other fortified foods or products (e.g., those singly-fortified with vitamin A, iodine, or other micronutrients). Some iron-fortified products (for example micronutrient powders and lipid-based nutrient supplements) may contain a range of micronutrients, in addition to iron. Many surveys that include questions on infant and young child feeding may also include questions on supplements, fortified products, and other nutrition-relevant topics. However, the example questionnaire provided here aims only to capture information needed to calculate the IYCF indicators.

[2] 120 RE per 100 g corresponds to 15% of the Nutrient Reference Value (NRV; 800 RE) established by the Codex Alimentarius. The Codex standard for identifying a food as a "source" of any nutrient states that the food should provide any of the following: 15% per 100 g solid food; 7.5% per 100 g liquids; 5% per 100 kcal; or 15% per serving. To be identified as a "high source" the food must provide twice this amount (e.g. 30% or 240 RE/100 g solids). The NRV are set at a level that should meet the needs of approximately 97% of individuals in the age/sex group with highest needs (excluding pregnant and lactating women). Needs of infants and young children are lower than those used to set the NRV; the standard of 120 RE corresponds to 30% of the WHO/FAO (2004) recommended safe intake for infants and young children. Currently, the Codex does not define NRV separately for different age and physiological groups. But the cut-off selected here follows the reasoning and identifies foods that can be considered "sources" for the general population, and "high sources" for infants and young children. For definition of "source", see Codex Alimentarius Commission, Guidelines adopted 1997, revised 2004; for definition of Nutrient Reference Values, see Codex Alimentarius Commission, Guidelines adopted 1985, revised 1993.

As noted above, in particular situations vitamin A-rich juices may be added as a separate item. In considering whether to do so, the Codex standards (footnote 2, on previous page) indicate a criterion of 60 RE per 100 grams (30 RAE) for juices to qualify as vitamin A-rich.

Finally, certain vitamin A-rich plant foods are "emerging" – for example, in the United States, orange tomatoes (but not red or yellow tomatoes) meet the criterion stated above for vitamin A-rich foods, and have recently been added to the U.S. food composition table as a separate item. To the extent that these or other foods – which do not fit well in any of the four vitamin A-rich groups above – are commonly eaten in survey areas, the food list may need to be further adapted to reflect this.

Condiments: Condiments are foods eaten in very small quantities and usually added to mixed dishes to provide flavor. It is not possible to include all food items that might be considered to be condiments on the sample list in Annex 4, though examples are given. Therefore, survey teams should rely on local expertise to distinguish which foods should be listed under the "condiment" food group. These can include foods that are nutrient dense, but are not nutritionally meaningful because they are eaten in very small quantities. For example, some small hot chilies are very high in vitamins A and C, but when they are used as condiments they do not contribute to nutrient intake in any meaningful way. Similarly, small amounts of fish powder may be used for flavoring, and do not contribute substantially to nutrient intake. However, pounded fish may also be added in larger amounts to mixed dishes. Decisions on whether to include an item in the condiment group or another food group should be taken in consultation with local nutritionists. At the same time, if foods are very rarely eaten by young children (for example, hot chilies, in many locations) note that misclassification will not affect survey results.

"Problem" foods: Certain foods present particular problems for classification. Every effort has been made to include these on the sample list (Annex 4). For example, when plantains are eaten as a staple food they should be considered as a starchy staple, and the roots and tubers group should be expanded to include plantains. When sweet bananas are eaten as a secondary food (as other fruits) they should be listed with "other fruits and vegetables". Soy products often cause confusion (for example, soy milk, soy yogurt, etc.). For the purposes of this questionnaire and the indicator calculations, all soy products can be classified with legumes, and not with animal milk or yogurt. Optionally, soy milk can be added as a separate liquid category in Q10, if it is of interest. Other "problem" foods include coconut, avocado, and various processed foods or street foods. See Annex 4 for further discussion.

Foods distributed by government or non-governmental groups: There is no food group on the example questionnaire for distributed commodities or food supplements. However, these foods are often listed separately, so that coverage can be assessed.[1] If foods or supplements are iron-fortified to meet the needs of infants and young children, they should be listed twice: under IYCF Q12, so as to be categorized (for example, as grains and/or legumes) and counted in the *Minimum dietary diversity* indicator, and also in IFF Q1–4, as iron-fortified foods, when appropriate.

High-fat and high-sugar foods: The IYCF indicators do not include an indicator related to consumption of high-fat or highly sweetened foods or drinks. However, these are of public health interest in many countries, including developing countries undergoing rapid nutrition transitions. When consumption of specific high-fat or high-sugar foods or products is of interest, these can be added to Q10 and/or Q12 as separate groups. The level of disaggregation of these groups would depend on the survey objectives (for example, to document consumption of sugary carbonated beverages, or of all sweetened drinks; similarly, all highly sweetened foods can be grouped together, or candies/sweets can be separated from baked goods, etc.).

[1] If foods/groups are added to the questionnaire as separate items, the calculation instructions should be adjusted accordingly.

Adapting questions on iron-fortified products (IFF Qs1–4)

Products that are specially fortified to meet the needs of infants and young children can be extremely helpful in filling common nutrient gaps. Fortified products include iron-fortified foods specially formulated for infants and young children, ready-to-use therapeutic foods, lipid-based nutrient supplements (which may be mixed with porridges or other foods) and other home fortification products such as multiple micronutrient powders (or crushable tablets). Currently, both products and standards for products are evolving rapidly. This makes development of appropriate standard questionnaires challenging.

In the example questionnaire included with this document, general questions are shown which will require additional work at country level in order to provide useful information. In some countries, particularly those where few products are available, questionnaire adaptation may be easily accomplished in partnership with Ministry of Health colleagues or other nutrition experts. In other countries adaptation of these questions will be very difficult and/or result in long lists of products that may not be feasible for simple surveys.

Deciding on inclusion of question on expressed breast milk and wet nursing (IYCF Q7a)

IYCF Qs 6, 7, and 7a are intended to capture information about breastfeeding. For the purposes of the IYCF indicators, a child is considered to be breastfed if he or she receives breast milk from his/her mother – whether by nursing or by being fed expressed breast milk – and/or if the child receives breast milk from another source (for example, wet nurse, milk bank). Question 7a ensures that information about breast milk from all sources is gathered.

However, survey managers may choose to delete Q7a if the survey will be fielded entirely in areas where these practices do not occur, or are very rare. In such areas, the question may cause confusion and add to the time needed for the interview, without producing useful information. If this question is deleted, the skip pattern for Q6 and the instructions for calculating indicator values must be adapted accordingly.

Adapting question and probing on frequency of feeding (IYCF Q14)

Q14 is intended to capture information on frequency of feeding solid, semi-solid or soft foods. The data gathered in Q14 are used to calculate values for several indicators: Indicators #4, *Introduction of solid, semi-solid, or soft foods*; #6, *Minimum meal frequency*; #7, *Minimum acceptable diet*; and #11, *Age-appropriate breastfeeding* (see instructions for calculating indicator values in Section D).

The question does not distinguish between meals and snacks, for several reasons. First, infants and toddlers may receive a substantial proportion of their energy intake from snacks; secondly, depending on the cultural context, it can be difficult to consistently distinguish between meals and snacks for this age group. Further, frequency of "feeding episodes", with meals not distinguished from snacks, has been shown to correlate with energy intake. Further, frequency of feeding episodes, with meals not distinguished from snacks, has been shown to correlate with energy intake for non-breastfed children and with energy intake from complementary foods for breastfed infants (*5*,*6*).

However, the question aims to exclude from consideration very trivial snacks. The interviewer instructions aim to clarify the intent of the question. In order to capture full information and the intended information, it is ideal to devote some discussion to this question during interviewer training. Standard, culturally appropriate probes should be developed and added to the questionnaire if possible. Interviewer guidance can also be adapted as needed for the local context.

Simplifying the questionnaire

The example questionnaire and enumerator instructions provided here give guidance for surveys aiming to provide data for all core and optional indicators (with the exception of the Optional Indicator #13, *Duration of breastfeeding*, see Annex 1 and Annex 5).

Narrower age ranges for surveys or questionnaires

For some surveys, the focus will either be on an age sub-group (for example, 6–23 months) or the age range of interest will cover 0–23 months, but there is capacity to field different questionnaires for infants under 6 months and those 6–23 months. In either case, the questionnaire can be substantially simplified.

For example, much more detail is needed on different liquids when the aim is to estimate the prevalence of exclusive and predominant breastfeeding. For infants and young children 6–23 months of age, less detail on liquids is needed. For ages 6–23 months, it is important to estimate the number of milk feeds (items B, C, and F). All other items in the liquids list could be dropped, at the discretion of the survey manager and depending on other survey objectives.

Conversely, for infants under 6 months of age, the dietary diversity indicator is not calculated (they are not in the denominator for this indicator), so Q12 on solid foods can be shortened to ask only about any solid/semi-solid food, without specifying which. In this case it is very important to include a set of standard probes, to be used with all respondents, to ensure that interviewers get full information on semi-solid and solid food. The question on frequency of feeding of solids/semi-solids also does not need to be asked for infants under 6 months of age.

Fewer indicators

Certain items on the list of liquids are also included only to allow calculation of the indicator for predominant breastfeeding. If this indicator is not calculated, the list of liquids can be shortened. Survey managers can determine which questions and list items are needed for the indicators of interest by reviewing the instructions for calculating those specific indicators.

Fewer food groups

The list of food groups is intended to be very complete, to cover all foods that might be encountered. This minimizes the number of foods that interviewers will need to write in the Box at the top of Q12, and thus minimizes the amount of coding to be done later. The example questionnaire is also very complete because it is meant to provide an example for many different situations, where different types of food may be important.

However, there are a number of reasons why food groups may be dropped from the questionnaire, or combined. In areas where a particular food group is rarely eaten and/or considered of no nutritional importance, it may be dropped (most commonly group P, grubs, snails and insects, and/or group Q, foods made with red palm oil etc.). Groups M (fats) and N (sweets) are also not included in any indicator calculation and can be dropped if they are not of interest. They were included in the example questionnaire because they are often of interest for other reasons. In some situations, it is known that organ meats are not fed to infants and young children, and in these cases Group G can be dropped.

Where the variety of animal source foods consumed is very low, survey managers may also consider combining meats with fish. However, dairy, eggs and flesh foods should never be combined, because each of these three groups is "scored" separately in the *Minimum dietary diversity* indicator. Before dropping or combining food groups, survey managers should review the instructions for calculating indicators to ensure that all necessary information will be available.

Less disaggregation of results

The questionnaire and interviewer instructions go into detail and emphasize helping the respondent to estimate her age. This emphasis is not necessary for smaller surveys, where results will not be disaggregated by the age group of the mother; the guidance is based on the usual practice in large scale surveys such as the DHS, where disaggregation by maternal age group is standard.

D. Instructions for calculating indicator values

This section provides instructions for calculating indicators based on the presentation and numbering of survey questions in the example questionnaire. When sample size allows, it can be useful to disaggregate indicators by age, as suggested below for each indicator.

For each core and optional indicator below, the indicator definition is presented, followed by instructions for calculating the indicator value. The following abbreviations are used: IBF refers to the Initiation of breastfeeding module of the example questionnaire; IYCF refers to the Infant and young child feeding module; IFF refers to the additional questions provided for assessing consumption of iron-fortified foods and products. As noted in the example questionnaire, these last questions require further field testing and careful adaptation.

Child age

Box 1 presents steps for calculating the child's age.[1] An estimate of the child's age is needed for calculation of each indicator. There are two places where the child's date of birth is asked: on the IBF module Q6 (for most recent birth) and on the IYCF module Q1 (for the child who is the subject of that module). Note the two may be different, for example if there is more than one eligible child in the household, or if the most recently born child has died. In the instructions below, age is referred to as "IYCF age" (i.e. age derived from IYCF Q1) for current status indicators and as "IBF age" (i.e. age derived from IBF Q6) for indicators based on maternal recall of most recent birth in last 24 months, whether the child is living or deceased.

Box 1. Calculating and using estimates of child age

To calculate "IBF age in days": Date of interview – date of birth (IBF Q6)

If day of birth is missing, substitute "15" for day of month.

If IBF age in days is less than 730 (2 years) the observation can be included in calculating Indicator #1, *Early initiation of breastfeeding*, and Indicator #9, *Children ever breastfed*.

To calculate "IYCF age in days": Date of interview – date of birth (IYCF Q1)

If day of birth is missing, substitute "15" for day of month.

Use IYCF age in days to determine whether each observation belongs in each "current status" indicator calculation (all indicators except the two above).

Example: 6 months = 6 * (365/12) = 183 days. All children less than 183 days of (estimated) age can be included in numerators and denominators for exclusive breastfeeding 0–5 months.

Each current status indicator calculation below specifies age in (estimated) days.

[1] For larger household surveys, Century Month Code (CMC) is often used to obtain age of child which is subsequently used for calculating indicator values. See MICS and/or DHS manuals.

Missing information

When collecting data, "don't know" and missing values should be kept to a minimum as large proportions of "don't know" and missing values can bias indicator estimates. However, even with best efforts to collect good data, "don't know" responses and missing values can still occur.

There are different options for how to treat "don't know" responses and missing values for calculating indicator values. One approach is to recode all "don't know" responses as missing data and to not include the missing values in the numerator or denominator for any indicator. This is the approach used by many small-scale surveys. A second approach, used in the DHS, is to recode "don't know" and missing data to the null value – to take the value of "no" (if a yes/no question) or "0" (if a numeric response is required) – and to include the recoded data in the numerator and denominator of indicators.

The following questions in the IYCF module contain "don't know" responses that may need to be recoded using one of the above approaches: IYCF Q6, 7, 7a, 8, 9, 10 (items A–I), 11 (items B, C, and F), 12 (items A–Q), 13, 14, and 15. IFF Q1–4 also allow for "don't know" responses that may need to be recoded. There are no questions in the IBF module that would need to be recoded because of a "don't know" response. *If "don't know" responses are not recoded or defined as missing, the instructions for calculating indicators will yield incorrect results* (for example, the code "98" might be taken as a positive response which would cause an error in the calculation of Indicator #6, *Minimum meal frequency*).

1. Early initiation of breastfeeding

Definition: Proportion of children born in the last 24 months who were put to the breast within one hour of birth.

$$\frac{\text{Children born in the last 24 months who were put to the breast within one hour of birth}}{\text{Children born in the last 24 months}}$$

Calculation:

$$\frac{\text{(IBF Age in days <730) } \mathbf{AND} \text{ (IBF11=000 OR IBF11=100)}}{\text{IBF Age in days <730}} \text{ X 100}$$

Notes:

- Either during data entry or initial processing, the information in IBF Q11 should be captured in a single 3-digit variable.
- The IBF Q11 variable is coded "000" when the respondent reports the baby was put to the breast "immediately".
- The IBF Q11 variable is coded "100" when the respondent reports the baby was put to the breast in less than one hour.
- Any code higher than 100 (i.e. 101 through 2XX) should not be counted in the numerator for this indicator as it indicates that the child was put to the breast more than 1 hour after birth.

Disaggregation:

- It is recommended that the indicator be further disaggregated and reported for (i) live births occurring in the last 12 months; and (ii) live births occurring between the last 12 and 24 months, if sample size permits.

2. Exclusive breastfeeding under 6 months

Definition: Proportion of infants 0–5 months of age who are fed exclusively with breast milk.

$$\frac{\text{Infants 0–5 months of age who received only breast milk during the previous day}}{\text{Infants 0–5 months of age}}$$

Calculation:

$$\frac{\text{(IYCF Age in days <183) AND (IYCF Q7=1 OR Q7a=1) AND (IYCF Q10A–Q10I all=2) AND (IYCF Q12A–Q12Q all=2)}}{\text{IYCF Age in days <183}} \text{ X 100}$$

Notes:

- IYCF Q7 and Q7a ask about feeding of breast milk yesterday. IYCF Q7a is an optional question for use when surveys are fielded in areas where wet nursing and/or feeding expressed breast milk may occur.
- IYCF Q10 captures information about liquids the child had yesterday, and Q12 captures information about foods the child ate yesterday.
- The instructions above must be adapted if country-specific liquids or foods are added to IYCF Q10 or Q12 as separate items.

Disaggregation:

- It is recommended that the indicator be further disaggregated and reported for the following age-groups: 0–1 month, 2–3 months, 4–5 months and 0–3 months, if sample size permits.

3. Continued breastfeeding at 1 year

Definition: Proportion of children 12–15 months of age who are fed breast milk.

$$\frac{\text{Children 12–15 months of age who received breast milk during the previous day}}{\text{Children 12–15 months of age}}$$

Calculation:

$$\frac{\text{(IYCF Age in days ≥365) AND (IYCF Age in days <487) AND (IYCF Q7=1 OR Q7a=1)}}{\text{(IYCF Age in days ≥365) AND (IYCF Age in days <487)}} \text{ X 100}$$

Notes:

- IYCF Q7 and Q7a ask about feeding of breast milk yesterday. IYCF Q7a is an optional question for use when surveys are fielded in areas where wet nursing and/or feeding expressed breast milk may occur.
- Because the indicator has a relatively narrow age range of 4 months, estimates from surveys with small sample sizes are likely to have wide confidence intervals.

Disaggregation:

- Further disaggregation of this indicator is not recommended because of the narrow age range.

4. Introduction of solid, semi-solid or soft foods

Definition: Proportion of infants 6–8 months of age who receive solid, semi-solid or soft foods.

$$\frac{\text{Infants 6–8 months of age who received solid, semi-solid or soft foods during the previous day}}{\text{Infants 6–8 months of age}}$$

Calculation:

$$\frac{\text{(IYCF Age in days} \geq 183\text{) AND (IYCF Age in days} < 274\text{) AND (IYCF Q14} > 0\text{)}}{\text{(IYCF Age in days} \geq 183\text{) AND (IYCF Age in days} < 274\text{)}} \times 100$$

Notes:

- IYCF Q14 asks about frequency of feeding of solid, semi-solid, and soft foods yesterday.
- Because the indicator has a relatively narrow age range of 3 months, estimates from surveys with small sample sizes are likely to have wide confidence intervals.

Disaggregation:

- Further disaggregation of this indicator is not recommended because of the narrow age range.

5. Minimum dietary diversity

Definition: Proportion of children 6–23 months of age who receive foods from 4 or more food groups.

$$\frac{\text{Children 6–23 months of age who received foods from} \geq 4 \text{ food groups during the previous day}}{\text{Children 6–23 months of age}}$$

Calculation:

To calculate a value for this indicator, a 7 food group score variable needs to be created. The instructions below show how to calculate the 7 food group score. This is followed by instructions to calculate the *Minimum dietary diversity* indicator.

Calculation of 7 food group score:

The 7 foods groups used for calculation of this indicator are:

1. grains, roots and tubers
2. legumes and nuts
3. dairy products (milk, yogurt, cheese)
4. flesh foods (meat, fish, poultry and liver/organ meats)
5. eggs
6. vitamin-A rich fruits and vegetables
7. other fruits and vegetables

Construct the 7 food group score as follows:

Begin with a score of 0.
For each of the 7 food groups, add a point if any food in the group was consumed.

Food group 1	Add 1 point if:	IYCF Q10G=1 OR Q12A=1 OR Q12C=1
Food group 2	Add 1 point if:	IYCF Q12K=1
Food group 3	Add 1 point if:	IYCF Q10B=1 OR Q10C=1 OR Q10F=1 OR Q12L=1
Food group 4	Add 1 point if:	IYCF Q12G=1 OR Q12H=1 OR Q12J=1
Food group 5	Add 1 point if:	IYCF Q12I=1

Food group 6 Add 1 point if: IYCF Q12B=1 OR Q12D=1 OR Q12E=1 OR Q12Q=1
Food group 7 Add 1 point if: IYCF Q12F=1

Calculation of Minimum dietary diversity indicator:

$$\frac{\text{(IYCF Age in days} \geq 183\text{) AND (IYCF Age in days} < 730\text{) AND (7 food group score} \geq 4\text{)}}{\text{(IYCF Age in days} \geq 183\text{) AND (IYCF Age in days} < 730\text{)}} \times 100$$

Notes:

- IYCF Q10 and Q12 ask about liquids and foods the child consumed the previous day. The instructions to calculate the 7 food group score may need to be adapted if country-specific liquids or foods are added to IYCF Q10 or Q12 as separate items.
- Some foods are included in IYCF Q12 for completeness, but do not appear in any of the food groups above. They are included in the question because if they were omitted from the list, interviewers might assign them to one of the other groups that count in the score by circling an existing option on the list. In addition, a complete list is also required for calculation of the exclusive breastfeeding indicator.

Disaggregation:

- Results may be reported separately for breastfed and non-breastfed children. However, diversity scores for breastfed and non-breastfed children should not be directly compared, because breast milk is not "counted" in any of the above food groups. Breast milk is not counted because the indicator is meant to reflect the quality of the complementary food diet. As a consequence, this indicator may show "better" results for children who are not breastfed than those who are breastfed in populations where formula and/or milk are commonly given to non-breastfed children.
- It is recommended that the indicator be further disaggregated and reported for the following age groups: 6–11 months, 12–17 months and 18–23 months, if sample size permits.

6. Minimum meal frequency

Definition: Proportion of breastfed and non-breastfed children 6–23 months of age who receive solid, semi-solid, or soft foods (but also including milk feeds for non-breastfed children) the minimum number of times or more.

$$\frac{\text{Breastfed children 6–23 months of age who received solid, semi-solid or soft foods the minimum number of times or more during the previous day}}{\text{Breastfed children 6–23 months of age}}$$

and

$$\frac{\text{Non-breastfed children 6–23 months of age who received solid, semi-solid or soft foods or milk feeds the minimum number of times or more during the previous day}}{\text{Non-breastfed children 6–23 months of age}}$$

Calculation:

To calculate a value for this indicator, combine the two numerators shown above, and the two denominators. This indicator summarizes several practices and the calculation below appears cumbersome. However, most users will be processing data using computer software, which simplifies the calculation process.

((IYCF Q7=1 OR Q7a=1) **AND** (IYCF Age in days ≥183) **AND** (IYCF Age in days <274) **AND** (IYCF Q14 ≥2)) **OR**
((IYCF Q7=1 OR Q7a=1) **AND** (IYCF Age in days ≥274) **AND** (IYCF Age in days <730) **AND** (IYCF Q14 ≥3)) **OR**
((IYCF Q7=2 AND Q7a=2) **AND** (IYCF Age in days ≥183) **AND**
(IYCF Age in days <730) **AND** ((IYCF Q11B + Q11C + Q11F + Q14) ≥4))

(IYCF Age in days ≥183) **AND** (IYCF Age in days <730)

X 100

Notes:

- IYCF Q7 and Q7a ask about feeding of breast milk yesterday. IYCF Q7a is an optional question for use when surveys are fielded in areas where wet nursing and/or feeding expressed breast milk may occur.
- IYCF Q14 asks about frequency of feeding of solid, semi-solid, and soft foods yesterday.
- For breastfed children, the minimum number of times varies with age (2 times if 6–8 months and 3 times if 9–23 months).
- IYCF Q11 asks about the number of times the child consumed infant formula, milk, or yogurt yesterday (see indicator #15). These "milk feeds" are counted in the numerator for non-breastfed children only.
- For non-breastfed children the minimum number of times does not vary by age (4 times for all children 6–23 months).

Disaggregation:

- It is recommended that the indicator be further disaggregated and reported for the following age groups: 6–11 months, 12–17 months and 18–23 months of age, if sample size permits. Results may also be reported separately for breastfed and non-breastfed children.

7. Minimum acceptable diet

Definition: Proportion of children 6–23 months of age who receive a minimum acceptable diet (apart from breast milk).

Breastfed children 6–23 months of age who had at least the minimum dietary diversity and the minimum meal frequency during the previous day

Breastfed children 6–23 months of age

and

Non-breastfed children 6–23 months of age who received at least 2 milk feedings and had at least the minimum dietary diversity not including milk feeds and the minimum meal frequency during the previous day

Non-breastfed children 6–23 months of age

Calculation:

Like the previous indicator, calculation of a value for this indicator involves combining the two numerators shown above, and the two denominators.

This indicator summarizes several practices and the calculation below appears cumbersome. However, most users will be processing data using computer software, which simplifies the calculation process.

For breastfed children, users are likely to calculate indicators for each individual practice first, scoring each child positively or negatively for each practice included in this indicator (see indicators #5 and #6). Each breastfed child with a positive score for both component practices will score positively on the summary indicator.

For non-breastfed children, the dietary diversity component of this indicator is different than for Indicator #5, *Minimum dietary diversity*. A 6 food group score (instead of a 7 food group score) that excludes dairy products is used for non-breastfed children for this indicator. In addition, this indicator requires that non-breastfed children receive a minimum number of milk feeds (see Indicator #15). A non-breastfed child with a positive score on Indicators #5 and #6 will therefore not necessarily score positively on the *Minimum acceptable diet* indicator. This is further explained in the notes that follow the calculation, below.

The instructions below show how to calculate the 6 food group score for non-breastfed children. This is followed by instructions to calculate the *Minimum acceptable diet* indicator.

Calculation of 6 food group score:

The 6 foods groups used for calculation of the dietary diversity component of the indicator for non-breastfed children are:

1. grains, roots and tubers
2. legumes and nuts
3. flesh foods (meat, fish, poultry and liver/organ meats)
4. eggs
5. vitamin-A rich fruits and vegetables
6. other fruits and vegetables

Construct the 6 food group score as follows:

Begin with a score of 0.
For each of the 6 food groups, add a point if any food in the group was consumed.

Food group 1	Add 1 point if:	IYCF Q10G=1 OR Q12A=1 OR Q12C=1
Food group 2	Add 1 point if:	IYCF Q12K=1
Food group 3	Add 1 point if:	IYCF Q12G=1 OR Q12H=1 OR Q12J=1
Food group 4	Add 1 point if:	IYCF Q12I=1
Food group 5	Add 1 point if:	IYCF Q12B=1 OR Q12D=1 OR Q12E=1 OR Q12Q=1
Food group 6	Add 1 point if:	IYCF Q12F=1

Calculation of Minimum acceptable diet indicator:

$$\frac{\begin{array}{c}((\text{IYCF Q7}=1 \text{ OR Q7a}=1) \textbf{ AND } (\text{IYCF Age in days} \geq 183) \textbf{ AND } (\text{IYCF Age in days} < 274) \\ \textbf{AND } (7 \text{ food group score} \geq 4) \textbf{ AND } (\text{IYCF Q14} \geq 2)) \textbf{ OR} \\ ((\text{IYCF Q7}=1 \text{ OR Q7a}=1) \textbf{ AND } (\text{IYCF Age in days} \geq 274) \textbf{ AND } (\text{IYCF Age in days} < 730) \\ \textbf{AND } (7 \text{ food group score} \geq 4) \textbf{ AND } (\text{IYCF Q14} \geq 3)) \textbf{ OR} \\ ((\text{IYCF Q7}=2 \text{ AND Q7a}=2) \textbf{ AND } (\text{IYCF Age in days} \geq 183) \textbf{ AND } (\text{IYCF Age in days} < 730) \textbf{ AND} \\ ((\text{IYCF Q11B} + \text{Q11C} + \text{Q11F}) \geq 2) \textbf{ AND } (6 \text{ food group score} \geq 4) \textbf{ AND } ((\text{IYCF Q11B} + \text{Q11C} + \text{Q11F} + \text{Q14}) \geq 4))\end{array}}{(\text{IYCF Age in days} \geq 183) \textbf{ AND } (\text{IYCF Age in days} < 730)} \text{ X } 100$$

Notes:

- IYCF Q7 and Q7a ask about breastfeeding yesterday. IYCF Q7a is an optional question for use when surveys are fielded in areas where wet nursing and/or feeding expressed breast milk may occur.
- Calculation of the food group scores are based on IYCF Q10 and Q12, which ask about liquids and foods the child consumed the previous day. The 7 food group score (see indicator #5) is used for breastfed children. The 6 food group score (see above), which excludes dairy products, is used for non-breastfed children when calculating this indicator. This is because milk feeds are considered a separate and required element for non-breastfed children in this multi-dimensional indicator. Exclusion of milk feeds from the diversity score here avoids "double-counting" of this food group and allows use of this indicator in comparisons – across space and time – between populations with different rates of continued breastfeeding.

- IYCF Q10 and Q12 ask about liquids and foods the child consumed the previous day. The instructions to calculate the 6 and 7 food group scores may need to be adapted if country-specific liquids or foods are added to IYCF Q10 or Q12 as separate items.
- IYCF Q11 asks about the number of times the child consumed infant formula, milk, or yogurt yesterday (see Indicator #15).
- IYCF Q14 asks about frequency of feeding of solid, semi-solid, and soft foods yesterday (see indicator #6).

Disaggregation:

- It is recommended that the indicator be further disaggregated and reported for the following age groups: 6–11 months, 12–17 months and 18–23 months of age, if sample size permits.

8. Consumption of iron-rich or iron-fortified foods

Definition: Proportion of children 6–23 months of age who receive an iron-rich food or iron-fortified food that is specially designed for infants and young children, or that is fortified in the home.

$$\frac{\text{Children 6–23 months of age who received an iron-rich food or a food that was specially designed for infants and young children and was fortified with iron, or a food that was fortified in the home with a product that included iron during the previous day}}{\text{Children 6–23 months of age}}$$

Calculation:

$$\frac{\text{(IYCF Age in days ≥183) AND (IYCF Age in days <730) AND (IYCF Q12G=1 OR Q12H=1 OR Q12J=1 OR IFF Q1=1 OR IFF Q2=1 OR IFF Q3=1 OR IFF Q4=1)}}{\text{(IYCF Age in days ≥183) AND (IYCF Age in days <730)}} \times 100$$

Notes:

- Suitable iron-rich or iron-fortified foods include flesh foods, commercially fortified foods specially designed for infants and young children which contain iron, or foods fortified in the home with a micronutrient powder containing iron or a lipid-based nutrient supplement containing iron. IYCF Q12 asks about foods consumed the previous day.
- Questions on iron-fortified foods and products (IFF Qs1–4) require careful adaptation. In some settings, only a subset of these questions may be used. The formula above shows how the calculation would be done if IFF Qs1–4 were all included in the questionnaire.

Disaggregation:

- It is recommended that the indicator be further disaggregated and reported for the following age groups: 6–11 months, 12–17 months and 18–23 months of age, if sample size permits.

9. Children ever breastfed

Definition: Proportion of children born in the last 24 months who were ever breastfed.

$$\frac{\text{Children born in the last 24 months who were ever breastfed}}{\text{Children born in the last 24 months}}$$

Calculation:

$$\frac{\text{(IBF Age in days <730) AND (IBF Q10=1)}}{\text{IBF Age in days <730}} \times 100$$

Notes:

- IBF Q10 asks if the child was ever breastfed.

Disaggregation:

- It is recommended that the indicator be further disaggregated and reported for (i) live births occurring in the last 12 months; and (ii) live births occurring between the last 12 and 24 months, if sample size permits.

10. Continued breastfeeding at 2 years

Definition: Proportion of children 20–23 months of age who are fed breast milk.

$$\frac{\text{Children 20–23 months of age who received breast milk during the previous day}}{\text{Children 20–23 months of age}}$$

Calculation:

$$\frac{\text{(IYCF Age in days ≥608) AND (IYCF Age in days <730) AND (IYCF Q7=1 OR Q7a=1)}}{\text{(IYCF Age in days ≥608) AND (IYCF Age in days <730)}} \times 100$$

Notes:

- IYCF Q7 and Q7a ask about breastfeeding yesterday. IYCF Q7a is an optional question for use when surveys are fielded in areas where wet nursing and/or feeding expressed breast milk may occur.
- Because the indicator has a relatively narrow age range of 4 months, estimates from surveys with small sample sizes are likely to have wide confidence intervals.

Disaggregation:

- Further disaggregation of this indicator is not recommended because of the narrow age range.

11. Age-appropriate breastfeeding

Definition: Proportion of children 0–23 months of age who are appropriately breastfed.

$$\frac{\text{Infants 0–5 months of age who received only breast milk during the previous day}}{\text{Infants 0–5 months of age}}$$

and

$$\frac{\text{Children 6–23 months of age who received breast milk, as well as solid, semi-solid or soft foods, during the previous day}}{\text{Children 6–23 months of age}}$$

Calculation:

To calculate a value for this indicator, combine the two numerators shown above, and the two denominators.

$$\frac{\begin{array}{l}((\text{IYCF Age in days} < 183)\ \textbf{AND}\ (\text{IYCF Q7=1 OR Q7a=1})\ \textbf{AND}\ (\text{IYCF Q10A–Q10I all=2})\ \textbf{AND}\ (\text{IYCF Q12A–Q12Q all=2}))\ \textbf{OR}\\ ((\text{IYCF Age in days} \geq 183)\ \textbf{AND}\ (\text{IYCF Age in days} < 730)\ \textbf{AND}\ (\text{IYCF Q7=1 OR Q7a=1})\ \textbf{AND}\ (\text{IYCF Q14} > 0))\end{array}}{\text{All children with IYCF Age in days} < 730} \times 100$$

Notes:

- IYCF Q7 and Q7a ask about breastfeeding yesterday. IYCF Q7a is an optional question for use when surveys are fielded in areas where wet nursing and/or feeding expressed breast milk may occur.
- IYCF Q10 captures information about liquids the child had yesterday, and IYCF Q12 captures information about foods the child ate yesterday.
- IYCF Q14 asks about frequency of feeding of solid, semi-solid, and soft foods yesterday.
- The instructions above must be adapted if country-specific liquids or foods are added to IYCF Q10 or Q12 as separate items.

12. Predominant breastfeeding under 6 months

Definition: Proportion of infants 0–5 months of age who are predominantly breastfed.

$$\frac{\begin{array}{c}\text{Infants 0–5 months of age who received breast milk}\\ \text{as the predominant source of nourishment during the previous day}\end{array}}{\text{Infants 0–5 months of age}}$$

Calculation:

$$\frac{\begin{array}{l}(\text{IYCF Age in days} < 183)\ \textbf{AND}\ (\text{IYCF Q7=1 OR Q7a=1})\ \textbf{AND}\ (\text{IYCF Q10B, 10C, 10F, 10G and 10I all=2})\\ \textbf{AND}\ (\text{IYCF Q12A – Q12Q all=2})\end{array}}{\text{IYCF Age in days} < 183} \times 100$$

Notes:

- IYCF Q7 and Q7a ask about breastfeeding yesterday. IYCF Q7a is an optional question for use when surveys are fielded in areas where wet nursing and/or feeding expressed breast milk may occur.
- IYCF Q10 captures information about liquids the child had yesterday, and IYCF Q12 captures information about foods the child ate yesterday.

- Predominant breastfeeding "allows" ORS, vitamin and/or mineral supplements, ritual fluids, water and water-based drinks, and fruit juice. Other liquids, including non-human milks and food-based fluids, are not allowed, and no semi-solid or solid foods are allowed.
- The instructions above may need to be adapted if country-specific liquids or foods are added to IYCF Q10 or Q12 as separate items.

13. Duration of breastfeeding

Definition: Median duration of breastfeeding among children 0–35 months of age.

The age in months when 50% of children 0–35 months did not receive breast milk during the previous day.

Calculation:

This indicator is more complicated to calculate than other indicators in this document. See Annex 5 for detailed instructions for calculating the value of this indicator.

Notes:

- This is the only one of the 15 IYCF indicators that requires data on children over 24 months of age. Calculation of this indicator requires data from IYCF Qs6, 7, and 7a for children 0–35 months of age. Data on the age of the child must also be available (IYCF age). Because the example questionnaire in this guide is structured to collect data on children 0–23 months only, the example questionnaire would need to be adapted to collect data for this indicator. Refer to the description of sampling issues Annex 1 of this document, where this issue is discussed in more detail.

14. Bottle feeding

Definition: Proportion of children 0–23 months of age who are fed with a bottle.

$$\frac{\text{Children 0–23 months of age who were fed with a bottle during the previous day}}{\text{Children 0–23 months of age}}$$

Calculation:

$$\frac{\text{(IYCF Age in days <730) } \mathbf{AND} \text{ (IYCF Q15=1)}}{\text{All children with IYCF Age in days <730}} \text{ X 100}$$

Notes:

- IYCF Q15 asks about bottle feeding.

Disaggregation:

- It is recommended that the indicator be further disaggregated and reported for the following age groups: 0–5 months, 6–11 months and 12–23 months, if sample size permits.

15. Milk feeding frequency for non-breastfed children

Definition: Proportion of non-breastfed children 6–23 months of age who receive at least 2 milk feedings.

$$\frac{\text{Non-breastfed children 6–23 months of age who received at least 2 milk feedings during the previous day}}{\text{Non-breastfed children 6–23 months of age}}$$

Calculation:

$$\frac{\text{((IYCF Q7=2 AND Q7a=2) AND (IYCF Age in days ≥183) AND (IYCF Age in days <730) AND ((IYCF Q11B + Q11C + Q11F) ≥2))}}{\text{(IYCF Q7=2 AND Q7a=2) AND (IYCF Age in days ≥183) AND (IYCF Age in days <730)}} \times 100$$

Notes:

- IYCF Q7 and Q7a ask about breastfeeding yesterday. IYCF Q7a is an optional question for use when surveys are fielded in areas where wet nursing and/or feeding expressed breast milk may occur.
- IYCF Q11 asks about the number of times the child consumed infant formula, milk, or yogurt yesterday.

Disaggregation:

- It is recommended that the indicator be further disaggregated and reported for the following age groups: 6–11 months, 12–17 months and 18–23 months, if sample size permits.

Annexes

ANNEX 1
Sampling considerations

This Annex provides a short discussion of sampling issues related to the collection and analysis of data for IYCF indicators. Probability sampling, sampling universes, indicator denominators and sample size are addressed. The Annex does not, however, provide comprehensive information on these topics. More detailed guidance is available elsewhere (*7*, *8*).

Probability sampling

The indicators for assessing IYCF practices are intended for use at the population-level. Probability sampling ensures that survey results are representative for the population of interest, allowing unbiased estimates of prevalence.

With probability sampling, every individual in the population of interest has a known, non-zero probability to be included in the sample. When the probabilities for inclusion in the sample are approximately equal, or unequal probabilities of selection are accounted for in analysis of the data, extrapolations about the value of the indicators can be made from the sub-set of the population on which data were collected (i.e. the survey sample) to the population represented by the survey.

A first step in planning a probability sample is to identify the indicators of interest. When planning to collect data on the indicators for assessing IYCF practices, it is important to consider 1) the sampling universe for the data to be collected and 2) the reference group, or denominator, for the indicators to be calculated. These considerations have implications for both sample design and sample size calculation.

Sampling universe

There are 8 core and 7 optional IYCF indicators. For the purpose of the guide on measurement, these indicators have been classified into one of two sampling universe categories: 1) all children born in the last 2 years (including those who are deceased); or 2) living children 0–23 months of age. This classification is shown in Table A1-1 (next page).

The classification is also reflected in the example questionnaire provided in this guide, where each indicator is associated not only with a sampling universe category, but also with a respondent type and data collection module (Table A1-2).

TABLE A1-1. SAMPLING UNIVERSE ASSOCIATED WITH INDICATORS FOR ASSESSING IYCF PRACTICES

No.	Indicator name	Sampling universe
Core indicators		
1	Early initiation of breastfeeding	All children born in the last 2 years
2	Exclusive breastfeeding under 6 months	Living children 0–23 months of age
3	Continued breastfeeding at 1 year	
4	Introduction of solid, semi-solid or soft foods	
5	Minimum dietary diversity	
6	Minimum meal frequency	
7	Minimum acceptable diet	
8	Consumption of iron-rich or iron-fortified foods	
Optional indicators		
9	Children ever breastfed	All children born in the last 2 years
10	Continued breastfeeding at 2 years	Living children 0–23 months of age
11	Age-appropriate breastfeeding	
12	Predominant breastfeeding under 6 months	
13	Duration of breastfeeding[a]	NA
14	Bottle feeding	Living children 0–23 months of age
15	Milk feeding frequency for non-breastfed children	

[a] Indicator #13, *Duration of breastfeeding*, cannot be collected with the example questionnaire provided in this guide but would generally be associated with a sampling universe of living children 0–35 months of age. This indicator can be collected by using a slightly modified questionnaire.

Having two different sampling universes associated with the indicators means that two different samples of data need to be collected: 1) a sample representative of all children born in the last two years and 2) a sample representative of living children 0–23 months. This increases the total number of households that need to be sampled for a survey.

When resources are limited, some survey managers may choose to collect data for Indicator #1, *Early initiation of breastfeeding*, and Indicator #9, *Children ever breastfed*, from a sampling universe of living children 0–23 months of age. These data would not be exactly comparable to data collected from a universe of all live births. This is because breastfeeding reduces the risk of mortality; therefore, it is possible that there could be a higher proportion of living children who were breastfed, and with early initiation, than there would be in a sample of all births. Despite this limitation, collecting the data from living children only can still be useful, to provide information about whether or not living children were breastfed within one hour of birth, or ever.

In the example questionnaire provided in this guide, the IBF module provides information for calculation of the indicators for the first sampling universe category, all children born in the last 2 years, and the IYCF module provides information for calculation of the indicators for the second sampling universe category, living children 0–23 months. When the sampling universe is all children born in the last two years, the respondent is the biological mother of the living or deceased child (regardless of whether or not she is the current caregiver of the child). When the sampling universe is living children 0–23 months, the respondent is the current caregiver of the child.

The example questionnaire also includes a Household Roster. This is the first component of the questionnaire that is administered at a sampled household. The Household Roster collects information from the head of the household about the sex and age of all household members. The purpose of the Household Roster is to identify all potentially eligible respondents for the IBF and IYCF modules. The Household Roster provides the first of several screening criteria for identifying eligible respondents for each module.

TABLE A1-2. RESPONDENT TYPE AND DATA COLLECTION MODULE ASSOCIATED WITH INDICATORS FOR ASSESSING IYCF PRACTICES

No.	Indicator name	Sampling universe	Respondent	Data collection module
Core indicators				
1	Early initiation of breastfeeding	All children born in the last 2 years	Female 15–49 years of age who gave birth to child	IBF
2	Exclusive breastfeeding under 6 months	Living children 0–23 months of age	Caregiver of child	IYCF
3	Continued breastfeeding at 1 year			
4	Introduction of solid, semi-solid or soft foods			
5	Minimum dietary diversity			
6	Minimum meal frequency			
7	Minimum acceptable diet			
8	Consumption of iron-rich or iron-fortified foods			
Optional indicators				
9	Children ever breastfed	All children born in the last 2 years	Female 15–49 years of age who gave birth to child	IBF
10	Continued breastfeeding at 2 years	Living children 0–23 months of age	Caregiver of child	IYCF
11	Age-appropriate breastfeeding			
12	Predominant breastfeeding under 6 months			
13	Duration of breastfeeding[a]	NA	NA	NA
14	Bottle feeding	Living children 0–23 months of age	Caregiver of child	IYCF
15	Milk feeding frequency for non-breastfed children			

[a] Indicator #13, *Duration of breastfeeding*, cannot be collected with the example questionnaire provided in this guide but would generally be associated with a sampling universe of living children 0–35 months of age. This indicator can be collected by using a slightly modified questionnaire.

For the IBF module, the Household Roster information is used to identify female household members 15–49 years of age.[1] Household members meeting this eligibility criterion are then asked additional screening questions in the IBF module. These include questions to identify the correct age of the respondent (from information provided by her as opposed to that provided by the head of the household) and if she has had a live birth in the last 2 years. A respondent who confirms that she is 15–49 years and has had a live birth in the last 2 years fulfills all screening criteria for the module and is then asked questions about breastfeeding practices related to her most recent live birth. Note that the IBF module is administered separately for each female 15–49 years of age in the household.

For the IYCF module, the Household Roster information is used to identify children under 3 years of age and the primary caregiver of each child under 3 years. In the IYCF module, the primary caregiver of each child is then asked the birthdate and age of the child in years and months. This information is used to determine if the child is in the age range of interest for the module.

In the IYCF module in this guide, we are only interested in obtaining information about children under 2 years of age (0–23 months). A broader age range is used in the Household Roster because the respondent providing the information for the Household Roster (often the household head) may not know the exact age of all household members. The primary caregiver of the child will usually be able to report the date of birth of the child with the most accuracy. The Household Roster in this way functions only as an initial screen. It helps to limit the number of respondents

[1] See Annex 2 for a discussion of age data.

that are asked the more time consuming age-related questions in the IYCF module and is designed to ensure that children are not excluded from the sample due to age misreporting by the head of the household. Note that the IYCF module is administered separately for each child under 3 years in the household.

The example questionnaire provided in this guide does not currently allow for calculation of the duration of breastfeeding indicator. This is because this indicator requires information on children up to 35 months. All other indicators described in this guide only require information on children 0–23 months, or on children who were born within the last two years. To collect data for the duration of breastfeeding indicator, the sample design and questionnaire would need to be adapted. Caregivers of living children 0–35 months would need to be included in the sample for the survey and the example questionnaire[1] would need to be adapted accordingly.

Denominator for indicators

The sampling universe categories outlined above define the population group on which data for the indicators are collected. Although the sampling universe covers a two-year age range for the children, most indicators are calculated for age sub-groups. For example, the exclusive breastfeeding indicator is calculated from questions included in the IYCF module that are asked of all caregivers of children 0–23 months. The calculation of the indicator, however, uses only the data collected for children 0–5 months. In this case, the reference group, or denominator, used for calculation of the indicator (children 0–5 months) is a subset of the age group defined for the sampling universe (children 0–23 months). This has implications for sample size determination (below).

Among the 15 indicators, there are 10 indicators for which the denominator used for calculation is a subset of the population group defined for the sampling universe category. The indicators for which this is the case are highlighted in blue in Table A1-3. All of these are indicators associated with the sampling universe of living children 0–23 months of age.

Sample size

Anytime a population-based survey will be carried out, it is important to consider if an adequate sample size will be available for calculation of the desired indicators. Sample size calculations should be made in advance of data collection, taking into account the objectives of the survey, the proposed sample design, and the desired level of precision (i.e. width of the confidence interval) with which each indicator should be reported. This is particularly important when collecting data for indicators associated with different sampling universes or within the same sampling universe but having different denominators.

When indicators will be collected from multiple sampling universes, the usual approach is to estimate sample size needs for each universe separately, and determine how the sample size associated with each universe can be met. When indicators classified within one sampling universe but with different denominators will be collected, it is not sufficient to estimate sample size needs only at the sampling universe level. This is because the total number of children included in the denominator of an indicator influences the precision of the estimate calculated for the indicator.

When planning a survey to collect any of the indicators highlighted in blue in Table A1-3, sample size calculations should be made taking into account both the level of precision desired for those indicators and the denominator (i.e. reduced sample size) used for calculation of the indicator. Similarly, if analysis of the data will include disaggregation of any indicator by breastfeeding status, age sub-group, or other household or maternal variable, this reduction in the denominator of the indicator should also be taken into account during sample size calculations, as the same considerations would apply.

[1] Specifically, the following components of the questionnaire would require modification: the Household Roster eligibility check for IYCF module, the IYCF module information panel, and IYCF Q2 and Q5.

TABLE A1-3. DENOMINATOR ASSOCIATED WITH INDICATORS FOR ASSESSING IYCF PRACTICES[a]

No.	Indicator name	Sampling universe	Denominator
Core indicators			
1	Early initiation of breastfeeding	All children born in the last 2 years	Children born in the last 24 months
2	Exclusive breastfeeding	Living children 0–23 months	Infants 0–5 months
3	Continued breastfeeding at 1 year		Children 12–15 months
4	Introduction of solid, semi-solid of soft foods		Infants 6–8 months
5	Minimum dietary diversity		Children 6–23 months
6	Minimum meal frequency		Children 6–23 months
7	Minimum acceptable diet		Children 6–23 months
8	Consumption of iron rich or iron fortified foods		Children 6–23 months
Optional indicators			
9	Children ever breastfed	All children born in the last 2 years	Children born in the last 24 months
10	Continued breastfeeding at 2 years	Living children 0–23 months	Children 20–23 months
11	Age-appropriate breastfeeding	Living children 0–23 months	Children 0–23 months
12	Predominant breastfeeding under 6 months	Living children 0–23 months	Infants 0–5 months
13	Duration of breastfeeding[b]	NA	NA
14	Bottle feeding	Living children 0–23 months	Children 0–23 months
15	Milk feeding frequency for non-breastfed children	Living children 0–23 months	Non-breastfed children 6–23 months

[a] The indicators highlighted in blue have a denominator that is a subset of the population group defined for the sampling universe.

[b] Indicator #13, *Duration of breastfeeding*, cannot be collected with the example questionnaire provided in this guide but would generally be associated with a sampling universe of living children 0–35 months of age, with data on children 0–35 months included in the denominator of the indicator. This indicator can be collected by using a slightly modified questionnaire.

The companion document to this guide, *Indicators for assessing infant and young child feeding practices: Part I Definitions* (*1*), provides some recommendations for disaggregation of the indicators. For ease of reference, these recommendations are also summarized in Table A1-4 below, along with the sampling universe and denominator associated with each indicator.

Tables A1-5 through 12 show how the width of the confidence interval for an indicator varies with:

1) the denominator of the indicator;

2) the sample size collected;

3) the design effect for an indicator; and

4) the estimated value of the indicator.

The tables show that the width of the confidence interval decreases with sample size and increases with design effect. The tables also show that, for a desired level of precision, larger sample sizes are required for indicator estimates closer to 50%, all other things being equal. The examples in these tables are for illustrative purposes only and should not be used for sample size calculation.

Detailed guidance on sample size calculation is outside the scope of this guide. For assistance with sample size calculation, users of this guide can consult with a biostatistician or refer to existing sampling manuals (*7, 8*) which treat sample size calculation issues in detail.

TABLE A1-4. RECOMMENDED DISAGGREGATION OF INDICATORS FOR ASSESSING IYCF PRACTICES

No.	Indicator name	Sampling universe	Denominator	Recommended disaggregation
Core indicators				
1	Early initiation of breastfeeding	All children born in the last 2 years	Children born in the last 24 months	a) Children born in the last 12 months b) Children born between the last 12 and 24 months
2	Exclusive breastfeeding under 6 months	Living children 0–23 months	Infants 0–5 months	a) Children 0–1 months b) Children 2–3 months c) Children 4–5 months d) Children 0–3 months
3	Continued breastfeeding at 1 year		Children 12–15 months	No further disaggregation recommended
4	Introduction of solid, semi-solid or soft foods		Children 6–8 months	No further disaggregation recommended
5	Minimum dietary diversity		Children 6–23 months	a) Children 6–11 months b) Children 12–17 months c) Children 18–23 months
6	Minimum meal frequency		Children 6–23 months	a) Children 6–11 months b) Children 12–17 months c) Children 18–23 months d) Breastfed children e) Non-breastfed children
7	Minimum acceptable diet		Children 6–23 months	a) Children 6–11 months b) Children 12–17 months c) Children 18–23 months
8	Consumption of iron-rich or iron-fortified foods		Children 6–23 months	a) Children 6–11 months b) Children 12–17 months c) Children 18–23 months
Optional indicators				
9	Children ever breastfed	All children born in the last 2 years	Children born in the last 24 months	a) Children born in the last 12 months b) Children born between the last 12 and 24 months
10	Continued breastfeeding at 2 years	Living children 0–23 months	Children 20–23 months	No further disaggregation is recommended
11	Age-appropriate breastfeeding		Children 0–23 months	No further disaggregation is recommended
12	Predominant breastfeeding		Children 0–5 months	No further disaggregation is recommended
13	Duration of breastfeeding[a]	NA	NA	
14	Bottle feeding	Living children 0–23 months	Children 0–23 months	a) Children 0–5 months b) Children 6–11 months c) Children 12–23 months
15	Milk feeding frequency for non-breastfed children		Non breastfed children 6–23 months	a) Children 6–11 months b) Children 12–17 months c) Children 18–23 months

[a] Indicator #13, *Duration of breastfeeding*, cannot be collected with the example questionnaire provided in this guide but would generally be associated with a sampling universe of living children 0–35 months of age. This indicator can be collected by using a slightly modified questionnaire.

SAMPLE SIZE AND PRECISION EXAMPLES, FOR INDICATOR ESTIMATES OF 50%

TABLE A1-5. ESTIMATED PRECISION FOR INDICATORS, ASSUMING AN ESTIMATE OF 50% FOR ALL INDICATORS AND A SAMPLE SIZE OF N=300 LIVING CHILDREN 0–23 MONTHS[a,b]

				Percentage point width of 95% confidence interval		
				Design effect		
No.	Indicator name	Denominator	n[c]	1.0	2.0	4.0
2	Exclusive breastfeeding	Infants 0–5 months	75	+/-11.3	+/-15.9	+/-22.5
3	Continued breastfeeding at 1 year	Children 12–15 months	50	+/-13.9	+/-19.6	+/-27.2
4	Introduction of solid, semi-solid of soft foods	Infants 6–8 months	38	+/-15.9	+/-22.5	+/-31.0
5	Minimum dietary diversity	Children 6–23 months	225	+/-6.5	+/-9.2	+/-13.1
6	Minimum meal frequency	Children 6–23 months	225	+/-6.5	+/- 9.2	+/-13.1
7	Minimum acceptable diet	Children 6–23 months	225	+/- 6.5	+/-9.2	+/-13.1
8	Consumption of iron rich or iron fortified foods	Children 6–23 months	225	+/-6.5	+/-9.2	+/-13.1
10	Continued breastfeeding at 2 years	Children 20–23 months	50	+/-13.9	+/-19.6	+/-27.2
11	Age-appropriate breastfeeding	Children 0–23 months	300	+/-5.7	+/-8.0	+/-11.3
12	Predominant breastfeeding under 6 months	Infants 0–5 months	75	+/-11.3	+/-15.9	+/-22.5
14	Bottle feeding	Children 0–23 months	300	+/-5.7	+/-8.0	+/-11.3
15	Milk feeding frequency for non-breastfed children	Non-breastfed children 6–23 months[d]	113	+/-9.2	+/-13.0	+/-18.5

[a] Only indicators associated with the sampling universe of currently living children 0–23 months are included in this table.
[b] For all calculations, an equal distribution of age across the sample is assumed.
[c] n is the sub-sample size available for calculation of the specific indicator.
[d] For indicator #15, 50% of the sample is assumed to not be breastfed.

TABLE A1-6. ESTIMATED PRECISION FOR INDICATORS, ASSUMING AN ESTIMATE OF 50% FOR ALL INDICATORS AND A SAMPLE SIZE OF N=900 LIVING CHILDREN 0–23 MONTHS[a,b]

				Percentage point width of 95% confidence interval		
				Design effect		
No.	Indicator name	Denominator	n[c]	1.0	2.0	4.0
2	Exclusive breastfeeding	Infants 0–5 months	225	+/-6.5	+/-9.2	+/-13.1
3	Continued breastfeeding at 1 year	Children 12–15 months	150	+/-8.0	+/-11.3	+/-15.9
4	Introduction of solid, semi-solid of soft foods	Infants 6–8 months	113	+/-9.2	+/-13.0	+/-18.5
5	Minimum dietary diversity	Children 6–23 months	675	+/-3.8	+/-5.3	+/-7.5
6	Minimum meal frequency	Children 6–23 months	675	+/-3.8	+/-5.3	+/-7.5
7	Minimum acceptable diet	Children 6–23 months	675	+/-3.8	+/-5.3	+/-7.5
8	Consumption of iron rich or iron fortified foods	Children 6–23 months	675	+/-3.8	+/-5.3	+/-7.5
10	Continued breastfeeding at 2 years	Children 20–23 months	150	+/-8.0	+/-11.3	+/-15.9
11	Age-appropriate breastfeeding	Children 0–23 months	900	+/-3.3	+/-4.6	+/-6.5
12	Predominant breastfeeding under 6 months	Infants 0–5 months	225	+/-6.5	+/-9.2	+/-13.1
14	Bottle feeding	Children 0–23 months	900	+/-3.3	+/-4.6	+/-6.5
15	Milk feeding frequency for non-breastfed children	Non-breastfed children 6–23 months[d]	338	+/-5.3	+/-7.5	+/-10.6

[a] Only indicators associated with the sampling universe of currently living children 0–23 months are included in this table.
[b] For all calculations, an equal distribution of age across the sample is assumed.
[c] n is the sub-sample size available for calculation of the specific indicator.
[d] For indicator #15, 50% of the sample is assumed to not be breastfed.

TABLE A1-7. ESTIMATED PRECISION FOR INDICATORS, ASSUMING AN ESTIMATE OF 50% FOR ALL INDICATORS AND A SAMPLE SIZE OF N=1500 LIVING CHILDREN 0–23 MONTHS[a,b]

				Percentage point width of 95% confidence interval		
				Design effect		
No.	Indicator name	Denominator	n[c]	1.0	2.0	4.0
2	Exclusive breastfeeding	Infants 0–5 months	375	+/-5.1	+/-7.1	+/-10.1
3	Continued breastfeeding at 1 year	Children 12–15 months	250	+/-6.2	+/-8.8	+/-12.3
4	Introduction of solid, semi-solid of soft foods	Infants 6–8 months	188	+/-7.1	+/-10.1	+/-14.3
5	Minimum dietary diversity	Children 6–23 months	1125	+/-2.9	+/-4.1	+/-5.8
6	Minimum meal frequency	Children 6–23 months	1125	+/-2.9	+/-4.1	+/-5.8
7	Minimum acceptable diet	Children 6–23 months	1125	+/-2.9	+/-4.1	+/-5.8
8	Consumption of iron rich or iron fortified foods	Children 6–23 months	1125	+/-2.9	+/-4.1	+/-5.8
10	Continued breastfeeding at 2 years	Children 20–23 months	250	+/-6.2	+/-8.8	+/-12.3
11	Age-appropriate breastfeeding	Children 0–23 months	1500	+/-2.5	+/-3.6	+/-5.1
12	Predominant breastfeeding under 6 months	Infants 0–5 months	375	+/-5.1	+/-7.1	+/-10.1
14	Bottle feeding	Children 0–23 months	1500	+/-2.5	+/-3.6	+/-5.1
15	Milk feeding frequency for non-breastfed children	Non-breastfed children 6–23 months[d]	563	+/-4.1	+/-5.8	+/-8.3

[a] Only indicators associated with the sampling universe of currently living children 0–23 months are included in this table.
[b] For all calculations, an equal distribution of age across the sample is assumed.
[c] n is the sub-sample size available for calculation of the specific indicator.
[d] For indicator #15, 50% of the sample is assumed to not be breastfed.

TABLE A1-8. ESTIMATED PRECISION FOR INDICATORS, ASSUMING AN ESTIMATE OF 50% FOR ALL INDICATORS AND A SAMPLE SIZE OF N=3000 LIVING CHILDREN 0–23 MONTHS[a,b]

				Percentage point width of 95% confidence interval		
				Design effect		
No.	Indicator name	Denominator	n[c]	1.0	2.0	4.0
2	Exclusive breastfeeding	Infants 0–5 months	750	+/-3.6	+/-5.1	+/-7.1
3	Continued breastfeeding at 1 year	Children 12–15 months	500	+/-4.4	+/-6.2	+/-8.8
4	Introduction of solid, semi-solid of soft foods	Infants 6–8 months	375	+/-5.1	+/-7.2	+/-10.1
5	Minimum dietary diversity	Children 6–23 months	2250	+/-2.1	+/-2.9	+/-4.1
6	Minimum meal frequency	Children 6–23 months	2250	+/-2.1	+/-2.9	+/-4.1
7	Minimum acceptable diet	Children 6–23 months	2250	+/-2.1	+/-2.9	+-4.1
8	Consumption of iron rich or iron fortified foods	Children 6–23 months	2250	+/-2.1	+/-2.9	+/-4.1
10	Continued breastfeeding at 2 years	Children 20–23 months	500	+/-4.4	+/-6.2	+/-8.8
11	Age-appropriate breastfeeding	Children 0–23 months	3000	+/-1.8	+/-2.5	+/-3.6
12	Predominant breastfeeding under 6 months	Infants 0–5 months	750	+/-3.6	+/-5.1	+/-7.1
14	Bottle feeding	Children 0–23 months	3000	+/-1.8	+-2.5	+/-3.6
15	Milk feeding frequency for non-breastfed children	Non-breastfed children 6–23 months[d]	1125	+/-2.9	+/-4.1	+/-5.8

[a] Only indicators associated with the sampling universe of currently living children 0–23 months are included in this table.
[b] For all calculations, an equal distribution of age across the sample is assumed.
[c] n is the sub-sample size available for calculation of the specific indicator.
[d] For indicator #15, 50% of the sample is assumed to not be breastfed.

SAMPLE SIZE AND PRECISION EXAMPLES, FOR INDICATOR ESTIMATES OF 20%

TABLE A1-9. ESTIMATED PRECISION FOR INDICATORS, ASSUMING AN ESTIMATE OF 20% FOR ALL INDICATORS AND A SAMPLE SIZE OF N=300 LIVING CHILDREN 0–23 MONTHS[a,b]

				Percentage point width of 95% confidence interval		
				Design effect		
No.	Indicator name	Denominator	n[c]	1.0	2.0	4.0
2	Exclusive breastfeeding	Infants 0–5 months	75	+/-9.1	+/-12.7	+/-18.0
3	Continued breastfeeding at 1 year	Children 12–15 months	50	+/11.1	+/-15.7	+/-21.7
4	Introduction of solid, semi-solid of soft foods	Infants 6–8 months	38	+/-12.7	+/-18.0	+/-24.8
5	Minimum dietary diversity	Children 6–23 months	225	+/-5.2	+/-7.4	+/-10.5
6	Minimum meal frequency	Children 6–23 months	225	+/-5.2	+/-7.4	+/-10.5
7	Minimum acceptable diet	Children 6–23 months	225	+/-5.2	+/-7.4	+/-10.5
8	Consumption of iron rich or iron fortified foods	Children 6–23 months	225	+/-5.2	+/-7.4	+/-10.5
10	Continued breastfeeding at 2 years	Children 20–23 months	50	+/-11.1	+/-15.7	+/-21.7
11	Age-appropriate breastfeeding	Children 0–23 months	300	+/-4.5	+/-6.4	+/-9.1
12	Predominant breastfeeding under 6 months	Infants 0–5 months	75	+/-9.1	+/-12.7	+/-18.0
14	Bottle feeding	Children 0–23 months	300	+-4.5	+/-6.4	+/-9.1
15	Milk feeding frequency for non-breastfed children	Non-breastfed children 6–23 months[d]	113	+/-7.4	+/-10.4	+/-14.8

[a] Only indicators associated with the sampling universe of currently living children 0–23 months are included in this table.
[b] For all calculations, an equal distribution of age across the sample is assumed.
[c] n is the sub-sample size available for calculation of the specific indicator.
[d] For indicator #15, 50% of the sample is assumed to not be breastfed.

TABLE A1-10. ESTIMATED PRECISION FOR INDICATORS, ASSUMING AN ESTIMATE OF 20% FOR ALL INDICATORS AND A SAMPLE SIZE OF N=900 LIVING CHILDREN 0–23 MONTHS[a,b]

				Percentage point width of 95% confidence interval		
				Design effect		
No.	Indicator name	Denominator	n[c]	1.0	2.0	4.0
2	Exclusive breastfeeding	Infants 0–5 months	225	+/-5.2	+/-7.4	+/-10.5
3	Continued breastfeeding at 1 year	Children 12–15 months	150	+/-6.4	+/-9.1	+/-12.7
4	Introduction of solid, semi-solid of soft foods	Infants 6–8 months	113	+/-7.4	+/-10.4	+/-14.8
5	Minimum dietary diversity	Children 6–23 months	675	+/-3.0	+/-4.3	+/-6.0
6	Minimum meal frequency	Children 6–23 months	675	+/-3.0	+/-4.3	+/-6.0
7	Minimum acceptable diet	Children 6–23 months	675	+/-3.0	+/-4.3	+/-6.0
8	Consumption of iron rich or iron fortified foods	Children 6–23 months	675	+/-3.0	+/-4.3	+/-6.0
10	Continued breastfeeding at 2 years	Children 20–23 months	150	+/-6.4	+/-9.1	+/-12.7
11	Age-appropriate breastfeeding	Children 0–23 months	900	+/-2.6	+/-3.7	+/-5.2
12	Predominant breastfeeding under 6 months	Infants 0–5 months	225	+/-5.2	+/-7.4	+/-10.5
14	Bottle feeding	Children 0–23 months	900	+/-2.6	+/-3.7	+/-5.2
15	Milk feeding frequency for non-breastfed children	Non-breastfed children 6–23 months[d]	338	+/-4.3	+/-6.0	+/-8.5

[a] Only indicators associated with the sampling universe of currently living children 0–23 months are included in this table.
[b] For all calculations, an equal distribution of age across the sample is assumed.
[c] n is the sub-sample size available for calculation of the specific indicator.
[d] For indicator #15, 50% of the sample is assumed to not be breastfed.

TABLE A1-11. ESTIMATED PRECISION FOR INDICATORS, ASSUMING AN ESTIMATE OF 20% FOR ALL INDICATORS AND A SAMPLE SIZE OF N=1500 LIVING CHILDREN 0–23 MONTHS[a,b]

				Percentage point width of 95% confidence interval		
				Design effect		
No.	Indicator name	Denominator	n[c]	1.0	2.0	4.0
2	Exclusive breastfeeding	Infants 0–5 months	375	+/-4.0	+/-5.7	+/-8.1
3	Continued breastfeeding at 1 year	Children 12–15 months	250	+/-5.0	+/-7.0	+/-9.9
4	Introduction of solid, semi-solid of soft foods	Infants 6–8 months	188	+/-5.7	+/-8.1	+/-11.4
5	Minimum dietary diversity	Children 6–23 months	1125	+/-2.3	+/-3.3	+/-4.7
6	Minimum meal frequency	Children 6–23 months	1125	+/-2.3	+/-3.3	+/-4.7
7	Minimum acceptable diet	Children 6–23 months	1125	+/-2.3	+/-3.3	+/-4.7
8	Consumption of iron rich or iron fortified foods	Children 6–23 months	1125	+/-2.3	+/-3.3	+/-4.7
10	Continued breastfeeding at 2 years	Children 20–23 months	250	+/-5.0	+/-7.0	+/-9.9
11	Age-appropriate breastfeeding	Children 0–23 months	1500	+/-2.0	+/-2.9	+/-4.0
12	Predominant breastfeeding under 6 months	Infants 0–5 months	375	+/-4.0	+/-5.7	+/-8.1
14	Bottle feeding	Children 0–23 months	1500	+/-2.0	+/-2.9	+/-4.0
15	Milk feeding frequency for non-breastfed children	Non-breastfed children 6–23 months[d]	563	+/-3.3	+/-4.7	+/-6.6

[a] Only indicators associated with the sampling universe of currently living children 0–23 months are included in this table.
[b] For all calculations, an equal distribution of age across the sample is assumed.
[c] n is the sub-sample size available for calculation of the specific indicator.
[d] For indicator #15, 50% of the sample is assumed to not be breastfed.

TABLE A1-12. ESTIMATED PRECISION FOR INDICATORS, ASSUMING AN ESTIMATE OF 20% FOR ALL INDICATORS AND A SAMPLE SIZE OF N=3000 LIVING CHILDREN 0–23 MONTHS[a,b]

				Percentage point width of 95% confidence interval		
				Design effect		
No.	Indicator name	Denominator	n[c]	1.0	2.0	4.0
2	Exclusive breastfeeding	Infants 0–5 months	750	+/-2.9	+/-4.0	+/-5.7
3	Continued breastfeeding at 1 year	Children 12–15 months	500	+/-3.5	+/-5.0	+/-7.0
4	Introduction of solid, semi-solid of soft foods	Infants 6–8 months	375	+/-4.0	+/-5.7	+/-8.1
5	Minimum dietary diversity	Children 6–23 months	2250	+/-1.7	+/-2.3	+/-3.3
6	Minimum meal frequency	Children 6–23 months	2250	+/-1.7	+/-2.3	+/-3.3
7	Minimum acceptable diet	Children 6–23 months	2250	+/-1.7	+/-2.3	+/-3.3
8	Consumption of iron rich or iron fortified foods	Children 6–23 months	2250	+/-1.7	+/-2.3	+/-3.3
10	Continued breastfeeding at 2 years	Children 20–23 months	500	+/-3.5	+/-5.0	+/-7.0
11	Age-appropriate breastfeeding	Children 0–23 months	3000	+/-1.4	+/-2.0	+/-2.9
12	Predominant breastfeeding under 6 months	Infants 0–5 months	750	+/-2.9	+/-4.0	+/-5.7
14	Bottle feeding	Children 0–23 months	3000	+/-1.4	+/-2.0	+/-2.9
15	Milk feeding frequency for non-breastfed children	Non-breastfed children 6–23 months	1125	+/-2.3	+/-3.3	+/-4.7

[a] Only indicators associated with the sampling universe of currently living children 0–23 months are included in this table.
[b] For all calculations, an equal distribution of age across the sample is assumed.
[c] n is the sub-sample size available for calculation of the specific indicator.
[d] For indicator #15, 50% of the sample is assumed to not be breastfed.

ANNEX 2
A review of issues related to age data

Because gathering information on age can be challenging, survey managers may wish to devote a session of interviewer training to discussions about how age will be determined, cross-checked, and used during survey data collection. This annex provides guidance on some of these issues.

The annex reviews the concept of "completed age"; the methods used to determine age in each module; and how the age data are used, both for determining respondent eligibility and for calculation of the IYCF indicators. Issues related to discrepant age reporting both within and across modules are also addressed.

The information provided in this annex is not intended to be comprehensive. For detailed guidance on age estimation, including how to develop and use a local events calendar, see the FAO document, *Guidelines for estimating the month and year of birth of young children* (*9*).

Defining the concept of completed age

Throughout this guide, the concept of completed age is used. This means that interviewers should record all age-related data as the completed age of the individual. Completed age refers to the number of days, months or years that have been lived in entirety by an individual. Partial days, months or years that have been lived should not be counted in a completed age estimate. For example:

- On the day of birth, a child has not yet completed the first day of life and therefore has a completed age of 0 days.
- A child who celebrated his/her first birthday two days prior to the time of the interview has a completed age of 1 year, or 12 months. The child has completed one full year of life (12 months) but has not yet completed the 13th month of life.

Age ranges for the IYCF indicators

The concept of completed age is also employed in Section D, on calculating indicator values; the concept is used in all denominators.

For example, the denominator for Indicator #3, *Continued breastfeeding at 1 year,* is children 12–15 months of age. This means that the indicator reflects data for children who have a completed age of 12–15 months (or, 12.0 to 15.9 months, a 4-month age range).

When calculating indicators, it is important to note that the indicator denominators are inclusive of the upper age indicated. Therefore, children who have a completed age of 15 months should be included in the calculation of IYCF indicator #3. Children with a completed age less than 12 months or with a completed age of 16 months or more should be excluded from calculation of this indicator.

How age is determined, by module

Information about an individual's completed age is collected by different methods and reported with varying levels of precision across modules. This is due to the varied objectives of each module and how the age data collected in each module is used.

The purpose of the Household Roster is to determine if there are individuals in the household who potentially meet the eligibility criteria for the IBF or IYCF modules. In the Household Roster, the ages recorded for individuals do not need to be exact. This is both for time efficiency and because the information is usually reported by the head of the household, who may or may not know the exact age of all household members. In the Household Roster, the age for each household member is recorded only as the number of completed years, i.e. the age at the individual's last birthday. Information about an individual's month or day of birth is not collected here.

The age data collected in the IBF and IYCF modules should be recorded with greater precision and accuracy. The age-related questions in these modules serve as the final filter to determine whether or not the respondent meets the eligibility criteria for the module. In addition, the age data recorded here are used in indicator calculation. These data therefore have the potential to affect both the integrity of the sample collected and the validity of the indicators.

Because of the importance of the age data recorded in these modules, the data here are collected using a series of questions, some of which are intended to solicit redundant information from the respondent. There are two reasons for this:

1. Age data are notoriously difficult to collect and prone to recall error. Some respondents may remember age-related data better in a particular format – for example, as a date of birth rather than as the age of the child in number of months. Asking the age-related questions in multiple ways provides the respondent different opportunities for reporting the most accurate age-related data possible.
2. Collecting the age-related data in different ways allows the interviewer to check the consistency of the data reported across questions, to use all information available to identify the best estimate of age with the help of the respondent.

The series of age-related questions that are asked of the respondent and the data that should be checked for consistency by the interviewer are described below, by module. Related information is also available in the interviewer instructions for each respective module.

Initiation of breastfeeding module

In the IBF module, information about the respondent's age is asked in two ways:

1. First, in IBF Q1, the respondent is asked to report the month and year of her birth.
2. Then, in IBF Q2, the respondent is asked to report her age at her last birthday, i.e. her age in completed years.

The responses to IBF Q1 and IBF Q2 are used to verify whether or not the respondent meets the age-eligibility criterion for the module, i.e. completed age of 15–49 years. If there is an inconsistency between IBF Q1 and IBF Q2, the discrepant age reporting should be reconciled, with the help of the respondent.

Infant and young child feeding module

In the IYCF module, information about the child's age is asked in several ways.

1. First, in IYCF Q1, the respondent is asked the day, month and year of the child's birth. If the respondent does not recall the exact date of the birth, a "don't know" response can be recorded for the day of birth; however, information on the month and the year of the birth are required.
2. If the respondent cannot recall the month and year of birth of the child, the interviewer should work closely with the caregiver to try to identify the best estimate for the child's date of birth, based on other known information. For detailed instruction on how to estimate the month and year of birth of young children, as well as instructions on how to develop and use a local events calendar, refer to the FAO document, *Guidelines for estimating the month and year of birth of young children* (*9*).

3. In IYCF Q2, the respondent is asked to report the child's age at his/her last birthday, i.e. his/her age in completed years.
4. Finally, in IYCF Q3, the respondent is asked to report the child's age in completed months.

IYCF Q4 leads the interviewer through a series of checks to assess the consistency of the age information reported in IYCF Q1, IYCF Q2 and IYCF Q3. It is important that any observed inconsistencies across these 3 questions be resolved at the time of data collection.

If inconsistencies are observed and the child's date of birth was recorded on a health card, this information can be used as the correct data source. If the date of birth was not recorded on a health card, the interviewer should review the information recorded with the respondent to identify how the inconsistencies across IYCF Q1, IYCF Q2 and IYCF Q3 should be reconciled.

Once the child's date of birth is established, the calendar tool at the end of this annex can be used to assess if the date of birth meets the age eligibility criterion for the IYCF module.

Discrepant age reporting across modules

Apart from the discrepant reporting that may occur across the age-related questions within a module, there is also potential for discrepant age-related data to be recorded across modules. It is possible, for example, for the same child to have a different date of birth reported in the IBF module (IBF Q6) than in the IYCF module (IYCF Q1).

Despite the apparent redundancy of age-information across modules, the age-related data does need to be collected uniquely in each module. Not all live births sampled for the IBF module will meet the eligibility criteria for the IYCF module. Some births will be for children who are no longer living, or for children who are no longer living with their biological mother. Similarly, not all children sampled for the IYCF module will meet the eligibility criteria for the IBF module. Some children will not be the most recent birth.

If the potential for discrepant age reporting between modules is a concern, interviewers can be trained to resolve these age inconsistencies during data collection. Note this task in not addressed in the example interviewer instructions in Section B. Efforts to resolve age inconsistencies can also be made at the time of data cleaning, though this is often less effective because the primary source of data (the respondent) can no longer be accessed.

Age data used in indicator calculation

Information on child age is required for calculation of each IYCF indicator presented in this guide. For the purpose of indicator calculation, the recorded date of birth should be used. This allows for the age of the child to be converted into an estimated number of completed days, which improves the precision of the denominators used in the indicator calculations.

Information about a child's date of birth is asked both in the IBF module (IBF Q6 for most recent birth) and in the IYCF module (IYCF Q1 for the child who is the subject of that module). The two dates of birth recorded may be different – even in the absence of age misreporting. This is because the date of births may be for different children.

Box 1 (see page 32) shows how to calculate a child's age from the date of birth information recorded in each module. These calculations should be made with a computer. In the instructions, age is referred to as "IYCF age" (i.e. age derived from IYCF Q1) for current status indicators and as "IBF age" (i.e. age derived from IBF Q6) for indicators based on maternal recall of most recent birth in last 24 months, whether the child is living or deceased.

Calendar tool for determining eligibility for the IBF and IYCF module (illustrative example)

Date of Interview: 19 August 2010; Date of Birth: 12 August 2008; Age (in months): ≥24 months (not eligible)

1. Circle date of interview at the bottom of calendar (2010)
2. Next, circle the same month and day at the top of the calendar (2008)
3. Mark with an "X" the child's date of birth in the calendar
4. If the "X" does not fall between the marked circles (top and bottom), the child is not eligible (≥ 24 months of age)
5. In the rare case that the interview is on the same day as the child's birthday, the child would still be eligible.
6. If the exact day of birth is unknown, assume the 15th of the month as day of birth.

2008

M	T	W	T	F	S	S
JANUARY						
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

M	T	W	T	F	S	S
FEBRUARY						
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18	19	20	21	22	23	24
25	26	27	28	29		

M	T	W	T	F	S	S
MARCH						
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3	4	5	6	7	8	9
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24	25	26	27	28	29	30
31						

M	T	W	T	F	S	S
APRIL						
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M	T	W	T	F	S	S
MAY						
			1	2	3	4
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12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

M	T	W	T	F	S	S
JUNE						1
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16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

M	T	W	T	F	S	S
JULY						
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21	22	23	24	25	26	27
28	29	30	31			

M	T	W	T	F	S	S
AUGUST						
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SEPTEMBER						
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22	23	24	25	26	27	28
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OCTOBER						
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13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

M	T	W	T	F	S	S
NOVEMBER						
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24	25	26	27	28	29	30

M	T	W	T	F	S	S
DECEMBER						
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22	23	24	25	26	27	28
29	30	31				

2009

M	T	W	T	F	S	S
JANUARY						
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12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

M	T	W	T	F	S	S
FEBRUARY						1
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16	17	18	19	20	21	22
23	24	25	26	27	28	

M	T	W	T	F	S	S
MARCH						1
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16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

M	T	W	T	F	S	S
APRIL						
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MAY						
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M	T	W	T	F	S	S
JUNE						
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29	30					

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JULY						
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AUGUST						
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31						

M	T	W	T	F	S	S
SEPTEMBER						
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M	T	W	T	F	S	S
OCTOBER						
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M	T	W	T	F	S	S
NOVEMBER						1
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M	T	W	T	F	S	S
DECEMBER						
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21	22	23	24	25	26	27
28	29	30	31			

2010

M	T	W	T	F	S	S
JANUARY						
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11	12	13	14	15	16	17
18	19	20	21	22	23	24
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M	T	W	T	F	S	S
FEBRUARY						
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MARCH						
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APRIL						
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MAY						
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31						

M	T	W	T	F	S	S
JUNE						
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28	29	30			26	27

M	T	W	T	F	S	S
JULY						
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28	29	30	31			

M	T	W	T	F	S	S
AUGUST						1
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23	24	25	26	27	28	29
30	31					

M	T	W	T	F	S	S
SEPTEMBER						
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OCTOBER						
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M	T	W	T	F	S	S
NOVEMBER						
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M	T	W	T	F	S	S
DECEMBER						
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ANNEX 3

Alternate method for collecting information on food groups consumed

This Annex describes an alternate method for gathering information about food groups consumed by the child less than two years of age. An alternate version of IYCF Q12, as well as alternate interviewer instructions, are provided below.

The example questionnaire in Section A elicits information about food groups by guiding the caregiver through a "free recall" of foods consumed by the child the previous day. The alternate version provided below substitutes a "list-based" approach in place of the free recall.

The main advantage of a list-based approach is that it requires less of the interviewer. The free recall requires the interviewer to probe repeatedly to help the caregiver recall each feeding/eating episode for the child the previous day. Probing must also be flexible, depending on the caregiver's responses. For example, when the caregiver mentions a mixed dish the interviewer must probe to determine the ingredients. The list-based approach appears more straightforward with respect to demands on interviewers. It is also usually faster, though this difference is less marked for infants and young children than for adults. This is because infants and young children have relatively simple diets.

The disadvantage of the list-based approach is that it is less intuitive, particularly for the respondent. It requires the respondent caregiver to think abstractly, and in ways that may not be familiar. Foods on the list are divided into groups based on nutritional considerations, but these categories may not correspond to the categories caregivers themselves employ in thinking about foods. Also, consumption of mixed dishes may be very common. In order to respond correctly and provide full information, the caregiver must "break apart" mixed dishes and report each ingredient when the interviewer lists the examples that comprise a food group. The list-based approach may also be more susceptible to misuse through rushing, on the part of the interviewer. This potential disadvantage can be addressed through strong training, supervision, and other standard data quality control procedures.

The alternative for IYCF Q12 (next page) is followed by the interviewer check and Q13–Q15, just as on the IYCF module (see interviewer check and Q13–15 in Section A and instructions for Q13–15 in Section B).

If the list-based method is used, an additional food group "R" is also added ("any other solid or semi-solid food"). Calculations of values for Indicator # 2, *Exclusive breastfeeding under 6 months*, and Indicator # 12, *Predominant breastfeeding under 6 months*, need to be adjusted to ensure exclusion of food group "R".

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES			
	OTHER FOODS: PLEASE WRITE DOWN OTHER FOODS IN THIS BOX THAT RESPONDENT MENTIONED BUT ARE NOT IN THE LIST BELOW:				
A12	Now I would like to ask you about (other) liquids or foods that ***(NAME)*** ate yesterday during the day or at night. I am interested in whether your child had the item even if it was combined with other foods. For example, if ***(NAME)*** ate a millet porridge made with a mixed vegetable sauce, you should reply yes to any food I ask about that was an ingredient in the porridge or sauce. Please do not include any food used in a small amount for seasoning or condiments (like chilies, spices, herbs, or fish powder), I will ask you about those foods separately. Yesterday during the day or at night, did ***(NAME)*** drink/eat:		YES	NO	DK
A	Bread, rice, noodles, or other foods made from grains, including thick grain-based porridge?	A.....	1	2	8
B	Pumpkin, carrots, squash, or sweet potatoes that are yellow, or orange inside?	B.....	1	2	8
C	White potatoes, white yams, manioc, cassava, or any other foods made from roots?	C.....	1	2	8
D	Any dark green leafy vegetables?	D.....	1	2	8
E	Ripe mangoes, ripe papayas, or (**insert other local vitamin-A rich fruits**)?	E.....	1	2	8
F	Any other fruits, or vegetables?	F.....	1	2	8
G	Liver, kidney, heart, or other organ meats?	G.....	1	2	8
H	Any meat, such as beef, pork, lamb, goat, chicken, or duck?	H.....	1	2	8
I	Eggs?	I.....	1	2	8
J	Fresh or dried fish, shellfish, or seafood?	J.....	1	2	8
K	Any foods made from beans, peas, lentils, or nuts?	K.....	1	2	8
L	Cheese, yogurt, or other milk products?	L.....	1	2	8
M	Any oil, fats, or butter, or foods made with any of these?	M.....	1	2	8
N	Any sugary foods such as chocolates, sweets, candies, pastries, cakes, or biscuits?	N.....	1	2	8
O	Condiments for flavor, such as chilies, spices, herbs, or fish powder?	O.....	1	2	8
P	Grubs, snails, or insects?	P.....	1	2	8
Q	Foods made with red palm oil, red palm nut, red palm nut pulp sauce	Q.....	1	2	8
R	Any other solid or semi-solid food	R.....	1	2	8

Interviewer Instructions: Q12 foods given yesterday

Q12 asks about different foods the child may have eaten yesterday (during the day or night). Similar foods are grouped together. It is important to ask about all the different groups of foods.

Begin by reading the introductory portion of the question slowly, emphasizing that the question concerns what the child ate on the day preceding the interview (yesterday during the day or at night). Then ask about each of the items in the order they appear in the question. For categories that have more than one item of food, circle "1" for "yes" if any item in that category was eaten.

If a food mentioned by the respondent is not listed in any of the existing food groups, write the name of the food in the box labeled "other foods", located above item A. These foods should not be coded into a food group at the time of the interview. A supervisor will decide how to code these foods later. However, typically respondents will not offer this additional information.

Sometimes the caregiver may tell you that the child had "soup" or "stew". For example, when you ask if the child ate "any other solid or semi-solid food", the respondent may mention a soup or stew. Since these typically include a variety of food items, it is important that you probe to find out the food items included in the soup or stew and circle "1" for each appropriate food/group.

When foods are added in very small amounts, or for seasoning, indicate this by circling "1" for item "0". For example, if a spoon of fish powder is added to a pot of stew, record it as a "condiment" and do not record that the child has eaten fish. If one or a few chili peppers are included in the family pot, record this as a "condiment" and do not record it as an "other fruit or vegetable."

However, again, typically respondents will not offer this additional information (tell you about a mixed dish that is not on the list).

As you are asking about the initial food items, the caregiver may interrupt and list the foods and liquids that the child consumed. If this happens, begin with the foods or liquids she mentions that the child received and circle a "1" for each item in the right column. You may need to ask the respondent to repeat the items to make sure that you have recorded all the food types correctly.

Once you have gone through items A through Q, you must go back and ask about any categories that the respondent did not mention. As you begin asking specifically about other food items/groups, the respondent may tell you that the child was given only the items she has already mentioned (for example, rice and mango). In this case, confirm that the child was not given anything else by asking "Was ***(NAME)*** given any other solid or semi-solid food?" (item "R" on this list). If the caregiver confirms that the child was not given any other liquid or food, mark "no" for all the other items in the list.

ANNEX 4
Sample liquid and food group list

The sample liquid and food group list aims to help guide the in-country adaptation of IYCF Q10 and IYCF Q12. IYCF Q10 lists various liquids given to infants and IYCF Q12 lists different food groups. For in-country adaptation of IYCF Q10 and Q12, you will need to modify the liquid and food list to include the most commonly consumed liquids and food items in the area(s) where you will implement the survey. This Annex provides explanation of the liquids that should (and should not) be included in IYCF Q10 and illustrative examples of foods (and food products) that can go under each food group in IYCF Q12.

This list is not exhaustive, but the group descriptions and extensive examples should provide sufficient basis for decisions about adaptation of IYCF Q10 and Q12 around country-specific liquids and foods.

Liquids

The list of liquids is quite detailed. This is because many infants under six months are given a variety of liquids and semi-solids (for example thin porridge) well before they are given other foods. The detailed list of liquids is intended to help ensure that complete information is available in order to classify the infant as exclusively breastfed, or not.

If the survey will not cover infants less than 6 months of age, the list of liquids can be considerably simplified. In this case, the main objective of Q10 is to capture information about milk feeds, and especially for non-breastfed infants and children.

Yogurt and thin porridge/gruel are included in the list although they may be eaten and not drunk as liquid. If the recommended method is used for data collection for Q12 (mother's free recall, assisted by interviewer probing) these foods are likely to also be captured under Q12. If they are captured in two places this does not create any problems for indicator calculation. These thin foods are included with the liquids because this guide also presents an alternate, list-based approach to Q12 (see Annex 3). When a list-based approach is used there is more risk that foods will be missed, especially because the list may group many foods, including some (for example thin porridge for infants, thick porridge eaten by older children and adults) that may belong in different categories in the mind of the respondent. Therefore, considering that some users may adopt a list-based approach, and because of the critical importance of estimating exclusive breastfeeding as accurately as possible, these foods are included on the list of liquids.

Sample list of liquids for IYCF Q10[1]

List of liquids on example questionnaire	Remarks
Plain water	
Infant formula	Include both fortified and non-fortified dairy-based infant formula. List examples of formulas available in the survey area(s). If soy-based formula is commonly given, add as a separate category (to distinguish from milk-based formula), and adapt calculation of indicators accordingly.
Milk	Include tinned/canned, powdered, or fresh animal milk. Do not include soy milk. If soy milk is common, add as a separate category and adapt calculation of indicators accordingly. "Milks" made from nuts/seeds/fruits (groundnut milk, cashew milk, sunflower milk, coconut milk) are more commonly used as ingredients and should be captured under Q12. If drunk as liquids, add a separate category to Q10.
Juice or juice drinks	Include home squeezed juice, 100% fruit juice or juice made from concentrate. Juice drinks (less than 100% juice) are also included. Juice and juice drinks are grouped together because distinguishing between juice and juice drinks is often difficult in recall surveys.
Clear broth	Include only clear water-based broths. Soups should not be included in this category. The rationale for including clear broths in the list of liquids is that they may not be considered as "foods" and might not be captured under Q12. If not captured and given to young infants, estimates of prevalence of exclusive breastfeeding could be inflated.
Yogurt	List local names for yogurt and yogurt drinks. The rationale for including yogurt in the list of liquids is the same as for clear broth. In some countries, there are products which may be called yogurt, but actually are sweet drinks containing very little yogurt. These should not be listed under Q10F, but instead should be in an added item for sweet drinks. If both types of products (100% yogurts, and highly sweetened drinks) are common in the survey area, survey managers will need to judge whether it will be possible to distinguish between them. If not, it may be necessary to decide where to categorize these drinks based on local knowledge of which are more commonly consumed by the sampled population.
Thin porridge	List local names for thin porridges or gruels that are usually prepared for infants and young children and can be poured easily off a spoon. Often, local names for thin porridge are different from thick porridge eaten by older children and adults. Thin porridges are included with the liquids because they may not be reported under Q12, especially when the alternate list-based approach (page 61) is used.
Other water-based liquids	Any other water-based liquids not listed above should be listed here. Herbal infusions (*example; gripe water*) or ritual fluids should be included in this category and specified.
Any other liquids	This final category is designed to ensure that no liquids are missed. It should be asked as written, without any specific examples. See also additional suggestions on the next page for country-specific liquids that might be added and that would precede this final category on the questionnaire. If the list is well designed there should be very few positive responses to this final category.

[1] Also refer to the Section C, on adapting the questionnaire.

Other liquids to be added to Q10 as needed	Remarks: If any items in this table are added to the list of liquids, indicator calculations will need to be adapted accordingly
Soy formula	As noted above under "infant formula"
Soy milk	As noted above under "milk"
Other non-dairy "milks" if taken as liquids	As noted above under "milk"
Probiotic products	If probiotic products are given to infants and young children in the survey area(s), they should be listed as a separate item. In some countries these products are currently being promoted.
Tea, coffee, or cocoa prepared only with water	Tea, coffee, and/or cocoa prepared with water can be listed either under "other water-based liquids" or separately, depending on advice from local nutritionists, and on whether there is any interest in capturing prevalence of intake among young children.
Tea, coffee, or cocoa prepared with milk	When tea, coffee, or cocoa prepared with milk are commonly given to infants and young children, they should be added to the list of liquids. Survey managers should consult with local nutritionists and decide whether or not to count these as "milk feeds" and ask Q11 (number of times consumed yesterday). The decision depends on the usual preparation. In some places, when prepared for infants, these drinks are typically prepared with milk and very little or no water. If so, they can be counted as milk feeds. In other places, only trivial amounts of milk are added and they should not be counted as milk feeds. In other situations the amount may vary and survey managers will need to make a difficult judgment. Consultation with local nutritionists should inform the judgment.
Sodas, other sweet drinks	Sodas/carbonated beverages and/or other sweet drinks can be listed either under "other water-based liquids" or separately, depending on advice from local nutritionists, and on whether there is any interest in capturing prevalence of intake among infants and young children.
Any other non-water based liquids	Other water-based liquids are already listed in Q10, as the penultimate item on the list on the example questionnaire. If there are other *non-water based liquids* they should be added to the list. Any other food-based prelacteals can also be added here, if survey managers judge this is the best way to ensure data on prelacteals is captured. As with several other items above, the rationale for including other prelacteals on a list of liquids is to ensure that estimates of exclusive breastfeeding are as accurate as possible.

Foods groups and examples for IYCF Q12

A. Foods made from grains

Include products and foods derived from cereal crops. Any staple dishes or products like breads (*for example bagels, rolls, scones, chapatti, roti, tortillas*), savory biscuits (*buttermilk biscuits, cheese biscuits*), porridge (*ugali, nsima/nshima, posho, sadza, mealies, dalia, muesli, papilla, grain fufu*), and noodles (*pasta, soba, spaghetti, vermicelli*) made from the grains listed below, and from flours of these grains, should be included in this category. Local names should be used (see Box A4-1). Sweet biscuits and cakes should not be included.

Common name (*regional common names*)	Binomial Name OR Genus	Family	Edible part of the plant
Amaranth (*kiwicha*)	*Amaranthus*	Amaranthaceae	Seeds
Barley	*Hordeum vulgare*	Poaceae	Seeds
Buckwheat	*Fagopyrum esculentum*	Polygonaceae	Seeds
Corn (maize)	*Zea mays*	Poaceae	Seeds
Fonio	*Digitaria exilis*	Poaceae	Seeds
Kamut	*Triticum turanicum*	Poaceae	Wheat-like seeds
Kañiwa, (*cañihua, cañiwa*)	*Chenopodium pallidicaule*	Amaranthaceae	Seeds
Millet	*Pennisetum typhoides*	Poaceae	Seeds
Oats	*Avena sativa*	Poaceae	Seeds
Palmer grass	*Distichlis palmeri*	Poaceae	Wheat-like seeds
Quinoa (*quinua*)	*Chenopodium quinoa*	Amaranthaceae	Seeds
Rice	*Oryza sativa*	Poaceae	Seeds
Rye	*Secale cereale*	Poaceae	Seeds
Sorghum	*Sorghum bicolor*	Poaceae	Seeds
Spelt	*Triticum spelta*	Poaceae	Wheat-like seeds
Teff	*Eragrastris albysinnica*	Poaceae	Seeds
Triticale (cross between wheat and rye)	*Triticosecale*	Poaceae	Seeds

Box A4-1. Use local names for foods

Use local names of the food items commonly consumed in the country to illustrate food groups. Some examples are given below for group A.

Example:

- Corn/Maize (ugali, nsima/nshima, posho, sadza, mealies, tortilla, when made from maize)
- Teff (injera)
- Wheat (chapatti, roti, tortilla, noodle, pasta, seitan)

Local names for staple foods can refer to foods with different main ingredients (for example, tortilla can be maize or wheat tortilla, noodle can be wheat or rice noodle) and yet belong in the same food group. In other cases, the item can belong in a different group, depending on the ingredient.

Example 1

Nsima (stiff porridge) can be made from maize (grain group) or from cassava (roots/tubers group). In this case, the grains group can include "nsima made from maize" and the roots/tubers group can include "nsima made from cassava".

Example 2

Clear/glass/cellophane noodles can be made of mung bean, rice or potato tuber starch.

"Noodles made from mung bean" would be included in group K (beans, peas, lentils, nuts, seeds); "rice noodles" would be included in the grains group, and "noodles made from potato starch" would be included in group C (roots, tubers, and plantains).

See Section C, on adapting the questionnaire, for suggestions on how to ensure that appropriate local names for foods are identified and included.

B. Dark yellow or orange-fleshed roots, tubers, and others

Include only roots, tubers, and other red/yellow/oranges vegetables that are sources[1] of vitamin A (see Box A4-2). Several items that are botanically fruits but are typically used as vegetables for culinary purposes are also included here.

Common name	Binomial Name OR Genus	Family	Edible part of the plant
Carrot	*Daucus carota*	Umbelliferae	Tuberous root
Pumpkin	*Cucurbita pepo*	Cucurbitaceae	Fruit, flowers
Red pepper (sweet)	*Capsicum annuum*	Solanaceae	Fruit
Squash (orange or dark yellow-fleshed only)	*Cucurbita*	Cucurbitaceae	Fruit
Sweet potato (orange or dark yellow-fleshed only)	*Ipomoea batatas*	Convolvulaceae	Tuberous root

Box A4-2. Cut-offs for defining foods and liquids as "sources" of vitamin A

For plant foods: Foods providing 120 retinol equivalents (RE) per 100 g are considered sources. This is roughly equivalent to 60 retinol activity equivalents (RAE); food composition tables may report vitamin A content of foods using RE or RAE.

For liquids (for example, juices): Liquids providing 60 RE or 30 RAE per 100 g are considered to be sources of vitamin A.

See Section C on adapting the questionnaire for further discussion of the rationale for these cut-offs.

C. Roots, tubers and plantains

Include non-colored items mainly providing carbohydrate. This group includes all non-grain-based starchy staples. Any staple dishes/casseroles and pastes made from roots, tubers, and plantains should also be included in this category.

Common name (*regional common names*)	Binomial Name OR Genus	Family	Edible part of the plant
Ahipa (*ajipa*)	*Pachyrhizus ahipa*	Fabaceae	Tuberous root
Arracacha (*racacha, white carrot*)	*Arracia xanthorhiza*	Apiaceae	Tuberous root
Arrowroot	*Maranta arundinacea*	Marantaceae	Rhizomes
Breadfruit	*Artocarpus*	Moraceae	Starchy fruit
Burdock root	*Arctium lappa*	Asteraceae	Taproot
Canna lily (*achira*)	*Canna lily*	Cannaceae	Starchy rhizome
Cassava (*yuca, manioc, mandioca*)	*Manihot esculenta*	Euphorbiaceae	Tuberous root
Chicory root	*Cichorium intybus*	Asteraceae	Tuberous root
Elephant foot yam (white)	*Amorhophallus paeoniifoleus*	Araceae	Starchy corm
Green bananas	*Musa*	Musaceae	Starchy fruit
Jicama/Yambean	*Pachyorhizuserosus*	Fabaceae	Tuberous roots
Lotus root	*Nelumbo nucifera*	Nelumbonaceae	Spongy roots
Maca	*Lepidium meyenii*	Brassicaceae	Tuberous root
Mashwa (*mashua*)	*Tropaeolum tuberosum*	Tropaeolaceae	Stem tuber
Mauka	*Mirabilis longiflora*	Nyctaginaceae	Tuberous root
Nopal	*Opuntia*	Cactaceae	Succulent stem
Oca	*Oxalis tuberosa*	Oxalidaceae	Tuberous root
Parsnip	*Pastinacea sativa*	Apicaceae	Tuberous root
Plantains (ripe and green)	*Musa*	Musaceae	Starchy fruit

[1] For definition of "source" refer to: Codex Alimentarius Commission, Guidelines adopted 1997, revised 2004; for definition of Nutrient Reference Values: Codex Alimentarius Commission, Guidelines adopted 1985, revised 1993.

Roots, tubers and plantains (continued)

Common name (*regional common names*)	Binomial Name OR Genus	Family	Edible part of the plant
Potatoes (purple/blue/pink/yellow)	*Solanum tuberosum*	Solanaceae	Stem tuber
Rutabaga	*Brassica napobrassica*	Brassicaceae	Tuberous root
Sweet potato (white/pale yellow-fleshed)	*Ipomoea batatas*	Convolvulaceae	Tuberous root
Tannia (yautia)	*Xanthosoma sagittifolium*	Araceae	Starchy corm
Taro root (*cocoyam, dasheen, eddo, tannia, colocasia, arbi/arvi*)	*Colocasia esculenta*	Araceae	Starchy corm
Turnip	*Brassica rapa*	Brassicaceae	Tuberous root
Ulloco (*melloco*)	*Ullucus tuberosus*	Basellaceae	Stem tuber
Water chestnut	*Eleocharis dulcis*	Cyperaceae	Starchy corms
Yam	*Dioscorea*	Dioscoreaceae	Tuberous root

D. Dark green leafy vegetables

Only include medium to dark green leafy vegetable that are a source of vitamin A in this category. Vitamin A values for leafy vegetables vary widely across various food composition tables. In general medium to dark leafy green vegetables will meet the criterion to be considered sources of vitamin A (see Box A4-2).

Common name (*regional common names*)	Binomial Name OR Genus	Family	Edible part of the plant
Alfalfa greens	*Medicago sativa*	Fabaceae	Leaves
Amaranth greens (*bugga, kiwicha, dodo*)	*Amaranthus*	Amaranthaceae	Leaves
Arugula (*rocket, rúcula, oruga*)	*Eruca sativa*	Brassicaceae	Leaves
Balsam-pear (*bitter gourd*)	*Momordica charantia*	Cucurbitaceae	Leaves (leafy tips)
Baobab greens	*Adansonia*	Malvaceae	Leaves
Bean greens	*Phaseolus*	Fabaceae	Leaves
Beet greens (*swiss chard, silverbeet, perpetual spinach, crab beet, mangold*)	*Beta vulgaris*	Amaranthaceae	Leaves
Bitter leaf (*ewuro, ndole, onugbu*)	*Vernonia calvoana*	Asteraceae	Leaves
Broccoli	*Brassica oleracea*	Brassicaceae	Leaves, head (thalamus, flower buds)
Broccoli rabe (*rappi, broccoletti, turnip greens*)	*Brassica rapa*	Brassicaceae	Leaves
Carrot greens	*Daucus carota*	Umbelliferae	Leaves
Cassava greens	*Manihot esculenta*	Euphotbiaceae	Leaves
Chicory greens	*Cichorium intybus*	Asteraceae	Leaves
Chili greens	*Capsicum frutescens*	Solanaceae	Leaves
Chinese cabbage (*bok choy, pak choy, snow cabbage*)	*Brassica rapa*	Brassicaceae	Leaves
Chinese kale (*Chinese broccoli, kai-lan, gai-lan*)	*Brassica oleracea*	Brassicaceae	Leaves
Collard greens (*spring greens*)	*Brassica oleracea*	Brassicaceae	Leaves
Cow pea greens	*Vigna unguiculata*	Papilionaceae	Leaves
Dandelion greens	*Taravacum*	Asteraceae	Leaves

Dark green leafy vegetables (continued)

Common name (*regional common names*)	Binomial Name OR Genus	Family	Edible part of the plant
Drumstick greens	*Moringa oleifera*	Moringaceae	Leaves
Fenugreek greens (*methi*)	*Trigonella foenum*	Fabaceae	Leaves
Fiddle head fern (*dod*)	*Pteridium aquilinum*	Dennstaedtiaceae	Leaves
Garden cress (*pepper grass*)	*Lepidium sativum*	Brassicaceae	Leaves
Kale	*Brassica oleracea*	Brassicaceae	Leaves
Lamb's quarters (*bathua*)	*Chenopodium album*	Amaranthaceae	Leaves
Lettuce (*bib, romaine*)	*Lactuca sativa*	Asteraceae	Leaves
Malva greens (*mallow*)	*Malva vertcillata*	Malvaceae	Leaves
Mustard greens	*Sinapsis alba*	Brassicaceae	Leaves
Okra (lady's finger, gumbo)	*Abelmoschus esculentus*	Malvaceae	Leaves
Pumpkin greens	*Cucurbeta pepo*	Cucurbitaceae	Leaves
Purslane	*Portulaca oleracea*	Portlacaceae	Leaves
Quinoa greens (*quinua*)	*Chenopodium quinoa*	Amaranthaceae	Leaves
Sea weed	*Caulerpa prolifera*	Caulerpaceae	Algae
Spinach	*Spinacia oleracea*	Amaranthaceae	Leaves
Sweet potato leaves	*Ipomoea batatas*	Convolvulaceae	Leaves
Tannia greens	*Xanthosoma*	Araceae	Leaves
Taro greens	*Colocasia esculenta*	Araceae	Leaves
Turnip greens	*Brassica rapa*	Brassicaceae	Leaves
Water cress	*Nasturtium officinale*	Brassicaceae	Leaves
Water spinach (*swamp cabbage, water morning-glory, kangkung, kang kung*)	*Ipoemoea aquatica*	Convolvulaceae	Leaves
Yau choy	*Brassica napus*	Brassicaceae	Leaves

E. Fruits (dark yellow or orange)

Include locally available dark yellow or orange fruits that are sources of vitamin A (see Box A4-2).

Common name (*regional common names*)	Binomial Name OR Genus	Family	Edible part of the plant
Apricots (fresh and dried)	*Prunus armeniaca*	Rosaceae	Fruit
Cantaloupe melon (ripe)	*Cucumis melo*	Cucurbitaceae	Fruit
Hog plum (*yellow mombin, cajà*)	*Spondias mombin, Spondias lutea*	Anacardiaceae	Fruit
Loquat	*Eriobotrya japonica*	Rosaceae	Fruit
Mango (ripe, fresh and dried)	*Mangifera indica*	Anacardiaceae	Fruit
Musk melon (ripe)	*Cucumis melo*	Cucurbitaceae	Fruit
Papaya (ripe, fresh and dried)	*Carica papaya*	Caricaceae	Fruit
Passion fruit (ripe)	*Passiflora edulis*	Passifloracceae	Fruit
Peaches (dried raw only)	*Prunus persica*	Rosaceae	Fruit
Persimmon (ripe)	*Diospyros kaki*	Ebenaceae	Fruit
Pitanga (*Surinam cherry, Brazilian cherry*)	*Eugenia uniflora*	Myrtaceae	Fruit
Tree tomato (*tamarillo*)	*Solanum betaceum*	Solanaceae	Fruit

F. Any other fruits and vegetables

This group includes various parts of a plant; leaves, stem, fruit and flowers.

Other fruits

Common name (*regional common names*)	**Binomial Name OR Genus**	**Family**	**Edible part of the plant**
Acerola (*West Indian cherry*)	*Malpighia glabra*	Malpighiaceae	Fruit
Apple	*Malus domestica*	Rosaceae	Fruit
Avocado	*Persea americana*	Lauraceae	Fruit
Banana	*Musa indica*	Musaceae	Fruit
Baobab pulp	*Adansonia*	Malvaceae	Fruit
Blackberry	*Rubus fruticosus*	Rosaceae	Fruit
Black current	*Ribes nigrum*	Grassulariaceae	Fruit
Blueberry	*Vaccinium*	Ericaceae	Fruit
Cactus pear	*Opuntia*	Cactaceae	Succulent stem
Cape gooseberry	*Physalis peruviana*	Solanaceae	Fruit
Cashew nut fruit (*cashew apple, tupi*)	*Anacardium occidentale*	Anacardiaceae	Fruit
Cherries (cornelian)	*Corneus*	Cornaceae	Fruit
Coconut flesh	*Cocos nucifera*	Arecaceae	Fruit
Cranberry	*Vaccinium*	Ericaceae	Fruit
Custard-apple (*bullock's heart, bull's heart*)	*Annona reticulata*	Annonaceae	Fruit
Dates (fresh and dried)	*Phoenix dactyfera*	Arecaceae	Fruit
Durian	*Durio*	Malvaceae	Fruit
Elderberry	*Sambucus*	Adoxaceae	Fruit and flowers
Figs (*sycamore*)	*Ficus*	Moraceae	Fruit
Goose berries	*Ribes species*	Grassulariaceae	Fruit
Grape fruit	*Citrus paradisi*	Rutaceae	Fruit
Grapes	*Vites Vinifera*	Vitaceae	Fruit
Groundcherry (*Cape-gooseberries, poha*)	*Physalis*	Solanaceae	Fruit
Guava	*Psidum*	Myrtaceae	Fruit
Guinep (*chenette, genip*)	*Mamoncillo/Mellicoccus*	Sapindaceae	Fruit
Huckleberry	*Vaccinium*	Ericaceae	Fruit
Indian Goose berry (*amla*)	*Ribes crispa*	Saxifragales	Fruit
Jackfruit (*kathal*)	*Artocarpus heterophyllus*	Moraceae	Fruit
June plum (*Jew plum, golden apple*)	*Spondias dulcis*	Anacardiaceae	Fruit
Kiwi	*Actinidia deliciosa*	Actinidiaceae	Fruit
Lemon	*Citrus limon*	Rutaceae	Fruit
Lime	*Citrus aurantifolia*	Rutaceae	Fruit
Litchi	*Litchi chinensis*	Sapindaceae	Fruit
Honeydew melon	*Cucunis melo*	Cucurbitaceae	Fruit
Mulberry	*Morus nigra*	Moraceae	Fruit
Nectarine	*Prunus persica*	Rosaceae	Fruit
Olive	*Olea europea*	Olecaceae	Fruit
Peach	*Prunus persica*	Rosaceae	Fruit
Pear	*Pyrus communis*	Rosaceae	Fruit
Pineapple	*Ananas*	Bomeliaceae	Fruit

Other fruits (continued)

Common name (*regional common names*)	Binomial Name OR Genus	Family	Edible part of the plant
Plum	*Prunus*	Rosaceae	Fruit
Pomegranate (*anar*)	*Punica granatum*	Luthraceae	Fruit
Pomerac (*Malay apple*)	*Syzigium malaccense*	Myrtaceae	Fruit
Prune	*Prunus domesticus*	Rosaceae	Fruit
Quince	*Cydonia oblongata*	Rosaceae	Fruit
Raisin	*Vites*	Vitaceae	Dried grapes
Rambutan	*Nephelium lappaceum*	Sapindaceae	Fruit
Raspberry	*Rubus*	Rosaceae	Fruit
Sapodella (*naseberry*)	*Manikara zapota*	Sapotaceae	Fruit
Soursop (*guanábana, graviola*)	*Annona muricata*	Annonaceae	Fruit
Star fruit (*kamrakh*)	*Averrhoa*	Oxalidaceae	Fruit
Strawberry	*Prunus*	Rosaceae	Fruit
Sweetsop (*sugar apple, custard apple*)	*Annona squamosa*	Annonaceae	Fruit
Tamarind	*Tamarindus indica*	Caesalpinioideae	Fruit
Tangerine	*Citrus tangerina*	Rutaceae	Fruit
Watermelon	*Citrullus lanatus*	Cucurbitaceae	Fruit
Yacon	*Smallanthus sonchifolius*	Asteraceae	Fruit
Zuzuba	*Ziziphus zuzuba*	Rhamnaceae	Fruit

Other vegetables

Common name (*regional common names*)	Binomial Name OR Genus	Family	Edible part of the plant
Artichoke	*Cynara cardumculus*	Asteraceae	Fleshy bracts
Asparagus	*Asparagus officinalis*	Asparagaceae	Young shoots
Bamboo shoot	*Bambusavulgaris*	Poaceae	Young stem
Beans (various) when eaten as fresh pods[a]	*Phaseolus*	Fabaceae	Young pod
Beets	*Beta vulgaris*	Amaranthaceae	Leafy stems
Bitter melon	*Momordica charantia*	Cucurbitaceae	Fruit
Brussels sprouts	*Brassica oleracea*	Brassicaceae	Fleshy bracts
Cabbage (common and red varieties)	*Brassica oleracea*	Brassicaceae	Leaves
Caigua (*caihua, slipper gourd*)	*Cyclanthera pedata*	Cucurbitaceae	Fruit
Cattail	*Typha*	Typhaceae	Rhizome
Cauliflower	*Brassica oleracea*	Brassicaceae	Head (thalamus, flower buds)
Celery	*Apium graveolens*	Apiaceae	Leaf stalk
Ceylon spinach	*Basella alba*	Basellaceae	Succulent leaves
Chayote (*sayote, tayota, choko, chocho, chow-chow, christophine*)	*Sechium edule*	Cucurbitaceae	Fruit
Corn (fresh, not dried/flour/meal) (*green maize*)	*Zea mays*	Poaceae	Corn cobs, kernels
Cucumbers	*Cucurbita Species*	Cucurbitaceae	Fruit
Eggplant (*aubergine, brinjal*)	*Solanum melongena*	Solanaceae	Fleshy fruit
Endive	*Cichorium endivia*	Asteraceae	Leaves
Fennel	*Foeniculum Vulgare*	Apiaceae	Bulb, stem, leaves, seeds

Other vegetables (continued)

Common name (*regional common names*)	Binomial Name OR Genus	Family	Edible part of the plant
Garlic	*Allium sativum*	Alliaceae	Bulb
Green pepper	*Capsicum annum*	Solanaceae	Fruit
Jicama (*yam bean*)	*Pachyrhizus erosus*	Fabaceae	Tuberous root
Kohlrabi (*German turnip*)	*Brassica oleracea*	Brassicaceae	Stem
Leek	*Allium ampeloprasum*	Alliaceae	Stem/leaf sheaths
Lettuce (light green)	*Lactuca sativa*	Asteraceae	Leaves
Luffa (*rigged gourd*)	*Luffa acutangula*	Cucurbitaceae	Fruit
Mushroom	*Agaricus bisporus*	Agaricaceae	Stem and cap
Nakati (*mock tomato*)	*Solanum aethiopicum*	Solanaceae	Leaves
Okra	*Abelmoschus esculentus*	Malvaceae	Green fruit
Onion	*Allium cepa*	Alliaceae	Bulb
Palm hearts (*palmito, chonta, swamp cabbage*)	*Bactris gasipaes*	Arecaceae	Inner core of the stem
Parwal (*pointed gourd*)	*Trichosanthes dioica*	Cucurbitaceae	Fruit
Peas, green, when eaten as fresh pod	*Pisum sativum*	Fabaceae	Young pod
Radish	*Raphanus sativus*	Brassicaceae	Tuberous root
Rutabaga greens	*Brassica napobrassica*	Brassicaceae	Leaves
Shallot (*eschallot, eeschalotte*)	*Allium oschaninii*	Alliaceae	Bulb
Snake gourd (*serpent gourd, chichinga, and padwal*)	*Trichosanthes cucumerina*	Cucurbitaceae	Fruit
Squash (Summer and other light colored squash)	*Cucurbita maxima*	Cucurbitaceae	Fruit
Tomato (red, yellow, green, not orange)	*Solanum lycopersicum*	Solanaceae	Fruit
Winter melon (*white gourd, ash gourd*)	*Benincasa hispida*	Cucurbitaceae	Fruit
Zucchini	*Cucurbita pepo*	Cucurbitaceae	Fruit

[a] Various varieties of young bean pods are eaten as vegetables; please refer to group K (beans, peas, lentils, nuts and seeds) section for a list of many varieties. All the varieties of bean consumed as a young pod should be included in this category. When seeds only are eaten (fresh or dried) they should be listed under group K.

G. Organ meats

This group includes different types of red organ meats that are usually rich in iron. Any processed/cured products made from these organ meats should also be included in this group.

- gizzard, heart, kidney and liver

H. Any meat

This group includes flesh foods. Any processed/cured products made from the meats listed below (sausages, salamis, etc.) should also be included in this group.

- beef, goat, lamb, mutton, pork, rabbit, yak, deer, antelope, buffalo, or other large wild (bush meat) or domesticated mammals
- chicken, duck, goose, guinea fowl, turkey, pigeon, or other wild or domesticated birds
- cane rat, guinea pig, rat, agouti, opossum, cat, dog, anteater, or other small wild (bush meat) or domesticated mammals
- frogs, other amphibians
- snakes, other reptiles

I. Eggs

This group includes all kinds of bird eggs.

- chicken eggs
- duck eggs
- guinea fowl eggs
- quail eggs

J. Fish and seafood

This group includes all types of fish and seafood. Any processed food made from these should also be included in this category.

- canned fish (anchovies, tuna, sardines)
- fresh or dried fish
- roe/fish eggs
- shark
- clam, crab, lobster, crayfish, mussels, oysters, shrimp, or other shellfish
- snails
- octopus, squid
- whale

K. Beans, peas, lentils, nuts and seeds

Include beans, peas, lentils, nuts, or seeds, and also products made from these. Seeds should not be included on the list if they are used in very small quantities or if chewed as a digestive; in these cases seeds should be listed as condiments. Include seeds here if they may be a substantial ingredient in mixed dishes, or if they are eaten as a substantial snack or side dish.

Tree nuts

Common name	Binomial Name OR Genus	Family	Edible part of the plant
Almonds	*Prunus dulcis*	Rosaceae	Nut
Cashews	*Anacardium occidentale*	Anacardiaceae	Nut
Chestnuts	*Castanea*	Fagaceae	Nut
Filberts	*Corylus maxima*	Betulaceae	Nut
Hazelnuts	*Corylus avellana*	Betulaceae	Nut
Macadamia nuts	*Macadamia*	Proteaceae	Nut
Pecans	*Carya illinoinensis*	Juglandaceae	Nut
Pistachios	*Pistacia vera*	Anacardiaceae	Nut
Walnut family	*Juglans*	Juglandaceae	Nut

Pulses, legumes and beans

Common name (*regional common names*)	Binomial Name OR Genus	Family	Edible part of the plant
Adzuki bean	*Vigna angularis*	Fabaceae	Seeds
Bambara groundnut (*jugo bean*)	*Vigna subterranea*	Fabaceae	Seeds
Broad bean (*fava bean, faba bean, horse bean, field bean, tic bean*)	*Vicia faba*	Fabaceae	Seeds
Chickpea (*chana dal*)	*Cicer arietinum*	Fabaceae	Seeds
Cluster bean (*guar*)	*Cyamopsis tetragonoloba*	Fabaceae	Seeds
Common bean (*black bean, kidney bean, blackberry bean, pinto bean, others*)	*Phaseolus vulgaris*	Fabaceae	Seeds
Coral bean (*Cherokee bean*)	*Erythrina herbacea*	Fabaceae	Seeds
Cowpea (*black-eyed pea, catjang, yardlong bean, southern pea, zombi pea*)	*Vigna unguiculata*	Fabaceae	Seeds
Horse gram	*Macrotyloma uniflorum*	Fabaceae	Seeds
Hyacinth bean	*Lablab purpureus*	Fabaceae	Seeds
Jack-beans	*Canavalia*	Fabaceae	Seeds
Lentil (*dal, pulses*)	*Lens culinaris*	Fabaceae	Seeds
Lima beans	*Phaseolus limensis*	Fabaceae	Seeds
Lupin (*tarwi, tarhui, chocho*)	*Lupinus mutabilis*	Fabaceae	Seeds
Moth bean	*Vigna aconitifolia*	Fabaceae	Seeds
Mung bean (*green gram*)	*Vigna radiata*	Fabaceae	Seeds
Pea	*Pisum sativum*	Fabaceae	Seeds
Peanut (*groundnut*)	*Arachis hypogaea*	Fabaceae	Seeds
Pencil yam	*Vigna lanceolata*	Fabaceae	Seeds
Pigeon pea	*Cajanus*	Fabaceae	Seeds
Rice bean	*Vigna umbellata*	Fabaceae	Seeds
Soybean (*soya bean*)	*Glycine max*	Fabaceae	Seeds
Sweet pea	*Lathyrus odoratus*	Fabaceae	Seeds
Urad bean (*black gram*)	*Vigna mungo*	Fabaceae	Seeds
Velvet bean (*cowitch*)	*Mucuna pruriens*	Fabaceae	Seeds
Winged bean (*Goa bean*)	*Psophocarpus tetragonolobus*	Fabaceae	Seeds

In addition to the tree nuts, pulses/legumes/beans in the tables above, this group also includes:

- sprouted pulses
- seeds and kernels (sesame, sunflower, pumpkin, pine nut)
- soy products (edamame, tofu, tempeh, soy paste, soy milk, texturized vegetable protein (TVP), soy cheese, soy yogurt, frozen soy yogurt)
- other pulse products (humus)
- nut and seed products (peanut butter, tahini paste, "milks" made from nuts and seeds)

L. Milk-based products

Include all food items in this group that are made from dairy, with the exception of butter and sour cream. Due to their high fat content and most typical culinary uses, these are classified with fats and oils.

- custard (milk based)
- hard cheese (cheddar, swiss, parmesan)
- ice-cream (dairy-based)
- kiefer
- processed cheese
- soft cheese (cottage, mozzarella, paneer, ricotta)
- yogurt/curd

M. Fats, oils and butter

Include all food items in this group that have visible fat. Do not include vitamin A-rich red palm oil (see Group Q below).

- butter
- ghee
- lard, suet, tallow (animal fats)
- margarine
- mayonnaise
- palm oil (not red palm oil)
- shortening
- sour cream
- vegetable/fruit/nut/seed oils (made from almond, avocado, canola, coconut, cotton-seed, flaxseed, groundnut, hazelnut, maize, olive, rapeseed, safflower, sesame, soybean, sunflower)

N. High-sugar foods

Include food items with a high content of different sweetening agents (for example, sugar, corn syrup, other syrup, honey, molasses, or jaggery).

- baklava
- biscuits (sweet)
- cakes
- candies
- chocolates
- cookies
- halwa
- hard candies
- honey
- jam
- marmalade

- pastries
- pie
- any other sweets

O. Condiments

Include items commonly used in small quantities and mainly used to enhance the flavor of the dish. This list may include many additional items, including various flavoring pastes and seeds, depending on local knowledge of their uses. Some examples of condiments:

- chilies
- fish powder, fish sauce
- herbs
- stock cubes
- soya sauce
- spices

P. Insects

Include commonly consumed insects:

- insect larvae: grubs
- insect eggs: termite eggs, etc.
- insects: ants, crickets, flies, grasshoppers, locust, termites, etc.

Q. Foods made from red palm oil, red palm nut and red palm nut pulp sauce

Include this group in countries where any of these red palm products are commonly consumed. See also Section C on adapting the questionnaire for discussion of vitamin A-fortified oil.

Box A4-3. Additional notes for "problem" foods

• Processed foods and street foods

Commonly consumed processed foods and street foods present challenges for classification. Sometimes, the best that can be done is to classify the food based on the main ingredient (e.g. bread with grains, even though there may be dairy, fat, other ingredients). If using the recommended method for administering Q12 (free recall with probing), the interviewer can probe for more than one main ingredient in street food or processed food and underline more than one ingredient on the questionnaire, as appropriate. If using the list-based approach (Annex 3), common mixed dishes should be placed in food groups and read to the respondent, or, if the survey manager prefers, listed as separate items and coded into food groups later.

• Fortified foods

In most cases, fortified foods should also be listed in their "home" food groups based on main ingredient. However, in some cases there will be an interest in knowing the proportion of children consuming a particular fortified product. If the product is specially fortified for infants and young children, this will also be captured by IFF Q1-Q4. If it is of interest to know the proportion of children consuming foods fortified for the general population, these can also be listed as a separate item in Q12. If this is done, the food should be re-grouped in its "home group" for calculation Indicator #5, *Minimum dietary diversity*.

• Coconut milk

Coconut milk is sometimes used as a condiment, and sometimes as one of the main ingredients in a prepared dish. Also, depending on how it is prepared, coconut milk can be either very thin, with high water content, or very rich and high in fat. Consult with local nutritionists, and group coconut milk either as a condiment or with the fats and oils, as indicated.

ANNEX 5
Instructions for calculating duration of breastfeeding

The Duration of breastfeeding indicator requires that data on IYCF age and IYCF Q6, 7, and 7a be available for children 0–35 months of age. Calculation of the indicator is a multi-step process described below.

Step 1. Calculate the proportion of children who received breast milk during the previous day separately for each successive two-month age group of children (for example children 0–1 month, children 2–3 months, children 4–5 months,…children 34-35 months). A total of eighteen proportions are calculated. The numerator for each proportion is IYCF Q7=1 OR IYCF Q7a=1. The denominator for each proportion is one of the two-month age groups of children. Note that to calculate a reliable estimate of the median duration of breastfeeding there should be at least 25 children, and preferably at least 50 children, in the denominator of each proportion calculated.

Step 2. Because the proportions calculated in Step 1 are based on relatively small sample sizes, a smooth, gradual decline in the proportion of children breastfed may not be observed from the youngest to oldest 2-month age group. To address this, the proportions calculated in Step 1 should be "smoothed."This is done by combining the numerator and denominator of each proportion with the numerator and denominator of the proportions for the preceding and subsequent two-month age groups of children. For example, the "smoothed" proportion for children 4–5 months old is the weighted average of the proportions for the following three age groups of children: 2–3 months, 4–5 months, and 6–7 months. The proportions for the youngest (0–1 month) and oldest (34–35 months) age groups of children are exceptions. The proportions calculated for these groups of children are not "smoothed."

Step 3. Identify the youngest age group of children for which the proportion who received breast milk is less than 0.50. Examine each "smoothed" proportion calculated in Step 2 to see whether the proportion is less than 50 percent. Because the proportions for the youngest and oldest age groups of children were not "smoothed", for these children the proportion calculated in Step 1 is used.

Step 4. Calculate the value of the median duration of breastfeeding. The formula to use to calculate the median value is:

$$\textbf{median} = m_{i-1} + [(p_{i-1} - 0.5)/((p_{i-1} - p_i) \times (w_i))]$$

where:

p_i is the proportion for the youngest age group of children with a proportion less than 0.50. This is the proportion identified in Step 3 above.

p_{i-1} is the proportion for the two-month age group that precedes the youngest age group with a proportion less than 0.50. If p_i is the proportion for children 22–23 months, p_{i-1} is the proportion for children 20–21 months.

m_{i-1} is the midpoint of the age range of children represented in the proportion, p_{i-1}. If p_{i-1} is the proportion for children 20–21 months, the midpoint of the age range, m_{i-1}, is (20+21)/2 = 20.5. There is one exception. If p_{i-1} is the proportion for children 0–1 month, $m_{i-1} = 0.75$.

w_i is the difference in the midpoint of the age range of children represented by the proportions p_i and p_{i-1}. If p_i is the proportion for children 2–3 months, p_{i-1} is the proportion for children 0–1 months. W_i is then calculated as the difference between the midpoint for children 2–3 months (2.5) and children 0–1 month (0.75): $w_i = 2.5 - 0.75 = 1.75$.

Table A5-1 provides the standard values for m_i and w_i[1] for each age group of children. These values are not sample dependent so do not need to be recalculated each time the duration of breastfeeding indicator is calculated.

TABLE A5-1. STANDARD MIDPOINT (M_i) AND WIDTH (W_i) VALUE BY AGE GROUP OF CHILDREN

Age group of children	Midpoint value (m_i)	Width value (w_i)
0–1 month	0.75	0.75
2–3 months	2.50	1.75
4–5 months	4.50	2.00
6–7 months	6.50	2.00
8–9 months	8.50	2.00
10–11 months	10.50	2.00
12–13 months	12.50	2.00
14–15 months	14.50	2.00
16–17 months	16.50	2.00
18–19 months	18.50	2.00
20–21 months	20.50	2.00
22–23 months	22.50	2.00
24–25 months	24.50	2.00
26–27 months	26.50	2.00
28–29 months	28.50	2.00
30–31 months	30.50	2.00
32–33 months	32.50	2.00
34–35 months	34.50	2.00

An example demonstrating how to carry out the steps to calculate the duration of breastfeeding indicator is provided below.

Step 1. Assume the following proportions were calculated for each two-month age group.

TABLE A5-2. PROPORTION WHO RECEIVED BREAST MILK THE PREVIOUS DAY BY TWO-MONTH AGE GROUP

Age group	Sample size for age group (n)	Proportion receiving breast milk the previous day
0–1 month	80	0.90
2–3 months	100	0.80
4–5 months	110	0.95
6–7 months	90	0.70
8–9 months	70	0.75
10–11 months	100	0.60
12–13 months	120	0.65
14–15 months	85	0.55
16–17 months	80	0.50
18–19 months	95	0.40
20–21 months	60	0.45
22–23 months	70	0.30
24–25 months	90	0.25
26–27 months	80	0.20
28–29 months	75	0.25
30–31 months	60	0.15
32–33 months	80	0.10
34–35 months	90	0.10

[1] For additional details about how the values for m_i and w_i are determined, refer to the Guide to DHS Statistics, available at http://www.measuredhs.com/pubs/pub_details.cfm?ID=718.

Step 2. Using the above proportions and sample sizes available for each age group, the "smoothed" proportions are calculated.

TABLE A5-3. "SMOOTHED" PROPORTIONS WHO RECEIVED BREAST MILK THE PREVIOUS DAY BY 2-MONTH AGE GROUP

Age group	Weighted sample size for "smoothed" proportion	"Smoothed" proportion receiving breast milk the previous day
0–1 month	80.0	0.90
2–3 months	96.7	0.88
4–5 months	100.0	0.83
6–7 months	90.0	0.81
8–9 months	86.7	0.68
10–11 months	96.7	0.66
12–13 months	101.7	0.61
14–15 months	95.0	0.58
16–17 months	86.7	0.48
18–19 months	78.3	0.45
20–21 months	75.0	0.38
22–23 months	73.3	0.32
24–25 months	80.0	0.25
26–27 months	81.7	0.23
28–29 months	71.7	0.20
30–31 months	71.7	0.17
32–33 months	76.7	0.11
34–35 months	90.0	0.10

Step 3. The youngest age group identified with a "smoothed" proportion <0.50 is 16–17 months.

Step 4. The median value is calculated using the below formula,

$$\textbf{median} = m_{i-1} + [(p_{i-1} - 0.50)/((p_{i-1} - p_i) \times (w_i))]$$

where:

p_i is 0.48 (see "smoothed proportion" for 16–17 month age group, Table A5-3 column 3)

p_{i-1} is 0.58 (see smoothed proportion for 14–15 month age group, Table A5-3 column 3)

m_{i-1} is 14.50 (see midpoint for 14–15 month age group in Table A5-1 column 2)

w_i is 2.00 (see width for 16–17 month age group in Table A5-1 column 3)

$$\textbf{median} = 14.50 + [(0.58 - 0.50)/((0.58 - 0.48) \times 2)] = 14.90 \text{ months.}$$

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This document is a companion to the document *Indicators for assessing infant and young child feeding practices. Part 1: Definitions* published by WHO and partners in 2008. It provides tools for the collection and calculation of the indicators. It is intended for use by managers of large-scale population-based surveys that will collect information on the status of feeding practices among infants and young children less than 2 years of age. It is hoped that the indicators will be widely measured in countries to assess the coverage of effective feeding practices among young children and to progress in the implementation of the Global Strategy for Infant and Young Child Feeding.

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Introduction

Adequate nutrition is essential for children's health and development. Globally it is estimated that undernutrition is responsible, directly or indirectly, for at least 35% of deaths in children less than five years of age. Undernutrition is also a major cause of disability preventing children who survive from reaching their full development potential. An estimated 32%, or 186 million, children below five years of age in developing countries are stunted and about 10%, or 55 million, are wasted (*1*). Unless massive improvements in child nutrition are made, it will be difficult to achieve Millennium Development Goals 1: *Eradicate extreme poverty and hunger* and 4: *Reduce child mortality* by 2015.

Simple, valid, and reliable indicators are essential to track progress and guide investment to improve nutrition and health during the first two years of life. This document gives details on indicators for assessing breastfeeding and complementary feeding that were agreed by WHO, UNICEF and partners in 2007 (*2*). It presents information on infant and young child feeding practices for 46 countries for which data were available in Demographic and Health Surveys (DHS) conducted between 2002 and 2008. Several of the values have not been calculated or published before. In particular, the document includes new data on the duration of exclusive breastfeeding and the quality of complementary feeding practices. This information is crucial for programme managers to understand the constraints associated with local infant and young child feeding practices and to target appropriate programme actions.

In 1991, WHO and UNICEF published indicators for assessing breastfeeding practices that have since been widely measured and used to guide programmes (*3*). However, until recently, indicators to assess feeding practices in children 6–23 months of age have not been very informative. Limited knowledge about the type, scale and distribution of inadequate complementary feeding practices has hampered action to improve child feeding (*4*).

Child feeding practices are multidimensional and they change rapidly within short age-intervals in the first years of life. Unlike exclusive breastfeeding, which can be summarized in a single indicator, the measurement of feeding practices in children aged 6 months and older involves assessing various dimensions of feeding simultaneously. These dimensions include continued breastfeeding, appropriate timing of introduction of complementary foods, and optimum quantity and quality of the foods consumed.

In 2008, WHO published the document *Indicators for assessing infant and young child feeding practices. Part 1: Definitions* which presented fifteen indicators for assessing infant and young child feeding practices (*2*). The updated set of indicators includes eight core and seven optional indicators (for details, see Box 1 and the Annex). The core list includes new indicators for dietary diversity (a proxy for adequate micronutrient-density of foods and liquids other than breast milk), feeding frequency (a proxy for adequate energy intake from non-breast milk sources), and minimum acceptable diet among breastfed and non-breastfed children aged 6–23 months. The list also includes previously used breastfeeding indicators, updated indicators for exclusive breastfeeding in infants aged less than 6 months and appropriate breastfeeding in children aged less than 24 months. Other dimensions of optimum feeding, such as responsive feeding and adequate texture of food, are not yet included as they require more complex measurement approaches.

Box 1. Summary list of infant and young child feeding indicators

Core indicators

Early initiation of breastfeeding
Exclusive breastfeeding under 6 months
Continued breastfeeding at 1 year
Introduction of solid, semi-solid or soft foods
Minimum dietary diversity
Minimum meal frequency
Minimum acceptable diet
Consumption of iron-rich or iron-fortified foods

Optional indicators

Children ever breastfed
Continued breastfeeding at 2 years
Age-appropriate breastfeeding
Predominant breastfeeding under 6 months
Duration of breastfeeding
Bottle feeding
Milk feeding frequency of non-breastfed children

In this document, thirteen of the above indicators are presented by country. The indicator 'Exclusive breastfeeding under 6 months' is further disaggregated for infants 4 to 6 months of age. The indicators 'Minimum meal frequency' and 'Minimum acceptable diet' are only reported for breastfed children, because the necessary information for calculating these indicators for non-breastfed children was not available. The indicators 'Consumption of iron-rich or iron-fortified foods' and 'Milk feeding frequency of non-breastfed children' are not reported, because relevant data were not collected.

The data are presented in country profiles that include graphs with breastfeeding and complementary feeding indicators, as well as an area graph to illustrate the progression of infant and young child feeding practices over time. Data on mortality and nutritional status of children under five years of age are also presented for each country. In addition, the document includes summary tables by indicator to allow for a rapid overview and comparison between countries. The median duration of breastfeeding by country is reported in the summary tables only.

The proposed indicators can be derived from questions already incorporated in widely implemented population-based surveys, such as the Demographic and Health Surveys. The document *Indicators for assessing infant and young child feeding practices. Part II: Measurement* provides sample questionnaires and operational guidance to facilitate the inclusion and standard measurement of the indicators in other surveys (*5*).

The new indicator values can be considered as baseline data. It is expected that in the future, surveys will generate similar data that can then be used for tracking progress.

Changes in indicator definitions compared to previously used indicators

The indicators presented in this document intend to preserve the continuity with the indicators to assess breastfeeding practices that have been measured since 1991 (*3*). However, in 2007, modifications were made to the definitions of two indicators as follows (*2*):

- *Exclusive breastfeeding*: the new definition of exclusive breastfeeding allows a child to receive Oral Rehydration Salts (ORS), in addition to drops and syrups (vitamins, minerals, medicines) as stipulated in the earlier definition. It is also recommended to report age-disaggregated data for this indicator.

The inclusion of ORS in the new definition of exclusive breastfeeding is based on the consideration that ORS is medicine to prevent and treat dehydration.

Presentation of age-disaggregated data, in particular exclusive breastfeeding among infants 4–5 months of age, provides valuable information about the actual duration of exclusive breastfeeding. The indicator 'Exclusive breastfeeding (infants 4–5 months)' is an approximation of the proportion of infants who are exclusively breastfed for the full 6 months. This indicator responds to the global recommendation on the optimal duration of exclusive breastfeeding that was changed in 2001 (*6*).

- *Introduction of solid, semi-solid or soft foods*: this indicator replaces the *Timely complementary feeding rate*. Continued breastfeeding is no longer a criterion included in the definition of the new indicator and the age range of children for which the indicator is assessed has been reduced to 6–8 months (previously 6–9 months).

The previously used indicator 'Timely complementary feeding rate' was a combination of two key practices, i.e. continued breastfeeding and consumption of solid, semi-solid or soft foods. It was therefore difficult to interpret. In the current set of indicators, 'Introduction of solid, semi-solid or soft foods' and 'Continued breastfeeding at 1 year' and 'Continued breastfeeding at 2 years' are reported as separate indicators. The combined practice of continued breastfeeding and consumption of solid, semi-solid or soft foods is reflected in the area graph that can be constructed for each setting based on the data gathered to calculate the indicators.

Table 1 summarizes the criteria that define selected infant and young child feeding practices captured by the indicators.

TABLE 1. CRITERIA THAT DEFINE SELECTED INFANT FEEDING PRACTICES

Feeding practice	Requires that the infant receive	Allows the infant to receive	Does not allow the infant to receive
Exclusive breastfeeding	Breast milk (including milk expressed or from a wet nurse)	ORS, drops, syrups (vitamins, minerals, medicines)	Anything else
Predominant breastfeeding	Breast milk (including milk expressed or from a wet nurse) as the predominant source of nourishment	Certain liquids (water and water-based drinks, fruit juice), ritual fluids and ORS, drops or syrups (vitamins, minerals, medicines)	Anything else (in particular, non-human milk, food-based fluids)
Complementary feeding	Breast milk (including milk expressed or from a wetnurse) and solid or semi-solid foods	Anything else: any food or liquid including non-human milk and formula	NA
Breastfeeding	Breast milk (including milk expressed or from a wet nurse)	Anything else: any food or liquid including non-human milk and formula	NA
Bottle-feeding	Any liquid (including breast milk) or semi-solid food from a bottle with nipple/teat	Anything else: any food or liquid including non-human milk and formula	NA

Methodological issues in measurement

In all the DHS surveys that provided data for this publication, questions on breastfeeding and consumption of solid and semi-solid foods were the same. However, the questions asked on the dietary diversity of food were modified. In DHS surveys conducted between 2006 and 2008, questions about dietary diversity were asked using an expanded list of food items compared to DHS surveys conducted between 2002 and 2005. Also, the question on consumption of eggs was asked separately as an item in DHS surveys between years 2006 and 2008 (except Bangladesh 2007 and Indonesia 2007), while between years 2002 and 2005 (except Cambodia 2005), eggs were included in the meat and poultry group. The group of children who were included in the sample used for assessing the various indicators (i.e., the sample universe), and specific notes related to the measurement of individual indicators are summarized in the section below.

In some area graphs of feeding practices presented in this document, the practice of exclusive breastfeeding appears to extend far beyond 6 months. This phenomenon is due to the way in which the indicator is calculated. The indicator 'Exclusive breastfeeding' is calculated as a residue of children whose caregiver responded "No" to all questions related to dietary intake other than breast milk, i.e. they did not consume any liquids or solid foods during the day or night preceding the interview. If for any reason an interviewer or a caregiver did not report a "Yes" for at least one of the food items (e.g., the interviewer forgot to ask about a food category, or the caregiver forgot to report on a food actually consumed), the child is counted in the exclusive breastfeeding category. Therefore, it is possible that some children who are much beyond 6 months of age appear to be exclusively breastfed when, in fact, they are not. This is a methodological artefact that is difficult to correct.

Indicators, indicator definitions, rationale, and notes on methods of analysis

CORE INDICATORS

1. **Early initiation of breastfeeding:** Proportion of children born in the last 24 months who were put to the breast within one hour of birth.

$$\frac{\text{Children born in the last 24 months who were put to the breast within one hour of birth}}{\text{Children born in the last 24 months}}$$

Rationale:

Early initiation of breastfeeding, within one hour of birth, protects the newborn from acquiring infection and reduces newborn mortality (*7, 8*). It facilitates emotional bonding of the mother and the baby (*9*) and has a positive impact on duration of exclusive breastfeeding (*10*). When a mother initiates breastfeeding within one hour after birth, production of breast milk is stimulated. The yellow or golden first milk produced in the first days, also called colostrum, is an important source of nutrition and immune protection for the newborn.

Notes on measurement:

- This indicator is based on historic recall. The denominator and numerator include living children and deceased children who were born within the past 24 months.

2. **Exclusive breastfeeding under 6 months:** Proportion of infants 0–5 months of age who are fed exclusively with breast milk.[1]

$$\frac{\text{Infants 0–5 months of age who received only breast milk during the previous day}}{\text{Infants 0–5 months of age}}$$

Rationale:

Exclusive breastfeeding for 6 months confers many benefits to the infant and the mother. Chief among these is the protective effect against gastrointestinal infections, which is observed not only in developing but also in industrialized countries (*11*). The risk of mortality due to diarrhoea and other infections can increase many-fold in infants who are either partially breastfed or not breastfed at all (*12*). In the context of HIV, introducing other milks, foods or liquids significantly increases the risk of HIV transmission through breast milk, and reduces infant's chances of HIV-free survival (*13*). For the mother, exclusive breastfeeding can delay return of fertility (*14*).

Notes on measurement:

- The sample universe for this indicator is last born children 0–5 months of age living with their mother.
- Any child who was given ORS and vitamin and/or mineral supplements was not excluded from the exclusive breastfeeding category.

2a. **Exclusive breastfeeding (infants 4–5 months):** Proportion of infants 4–5 months of age who are fed exclusively with breast milk.

$$\frac{\text{Infants 4–5 months of age who received only breast milk during the previous day}}{\text{Infants 4–5 months of age}}$$

Rationale:

As infants grow during the first six months, the likelihood that they are exclusively breastfed becomes less in many settings. Assessing exclusive breastfeeding in infants aged 4–5 months gives additional information on the duration of exclusive breastfeeding, and is an approximation of the proportion of infants who are exclusively breastfed for the full 6 months.

Notes on measurement:

- The sample universe for this indicator is last born children 4–5 months of age living with their mother.
- Any child who was given ORS and vitamin and/or mineral supplements was not excluded from the exclusive breastfeeding category.

3. **Continued breastfeeding at 1 year:** Proportion of children 12–15 months of age who are fed breast milk.

$$\frac{\text{Children 12–15 months of age who received breast milk during the previous day}}{\text{Children 12–15 months of age}}$$

[1] Age groups are described in intervals of months completed. For example, infants 0–5 months of age have completed 5 months but are less than 6 months (or 183 days) old.

Rationale:

Breast milk is an important source of energy and nutrients in children 6–23 months of age. Breast milk can provide one half or more of a child's energy needs between 6 and 12 months of age, and one third of energy needs between 12 and 24 months (*15*). Breast milk is also a critical source of energy and nutrients during illness and reduces mortality among children who are malnourished (*16, 17, 18*). Breast milk reduces the risk of a number of acute and chronic diseases in early childhood and has long-term benefits for cardio-vascular health (*19*). In the context of HIV, early cessation of breastfeeding after 6 months is associated with increased serious morbidity, growth faltering and increased mortality (*13*).

Notes on measurement:

- The sample universe for this indicator is last born children 12–15 months of age living with their mothers.

4. **Introduction of solid, semi-solid or soft foods:** Proportion of infants 6–8 months of age who receive solid, semi-solid or soft foods.

$$\frac{\text{Infants 6–8 months of age who received solid, semi-solid or soft foods during the previous day}}{\text{Infants 6–8 months of age}}$$

Rationale:

Around the age of 6 months, an infant's need for energy and nutrients starts to exceed what is provided by breast milk and complementary foods are necessary to meet energy and nutrient requirements. At about 6 months of age, an infant is also developmentally ready for other foods. If complementary foods are not introduced when a child has completed 6 months of age, or if they are given inappropriately, an infant's growth may falter (*20*).

Notes on measurement:

- The sample universe for this indicator is last born children 6–8 months of age living with their mothers.
- Information about the consumption of solid, semi-solid and soft foods was not collected in a few of the DHS surveys and this has been indicated in the graphs and tables accordingly.

5. **Minimum dietary diversity:** Proportion of children 6–23 months of age who receive foods from 4 or more food groups.

$$\frac{\text{Children 6–23 months of age who received foods from} \geq 4 \text{ food groups during the previous day}}{\text{Children 6–23 months of age}}$$

Rationale:

Dietary diversity is a proxy for adequate micronutrient-density of foods. Dietary data from children 6–23 months of age in 10 developing country sites have shown that consumption of foods from at least 4 food groups on the previous day would mean that in most populations, the child had a high likelihood of consuming at least one animal-source food and at least one fruit or vegetable, in addition to a staple food (*21, 22*).

Notes on measurement:

- The sample universe for this indicator is last born children 6–23 months of age living with their mothers.
- The 7 foods groups used for calculation of this indicator are:
  - grains, roots and tubers
  - legumes and nuts
  - dairy products (milk, yogurt, cheese)
  - flesh foods (meat, fish, poultry and liver/organ meats)
  - eggs
  - vitamin-A rich fruits and vegetables
  - other fruits and vegetables.

The construction of the 7 food group score was done as follows: for each of the 7 food groups, a point was added if any food in the group was consumed. Children who consumed items like "Papilla" (distributed in Peru) or "Bienestarina" (distributed in Colombia) received a point for two food groups (dairy products and grains, roots and tubers) because "Papilla" and "Bienestarina" include both milk powder and grains. Eggs were included in the poultry food group in Bangladesh 2007 DHS, Indonesia 2007 DHS, and the DHS surveys conducted between 2002 and 2005. Therefore, children who were reported to have eaten poultry also received a point for eggs in these surveys.

6. **Minimum meal frequency:** Proportion of breastfed and non-breastfed children 6–23 months of age, who receive solid, semi-solid, or soft foods (but also including milk feeds for non-breastfed children) the minimum number of times or more.

This indicator is calculated from the following two fractions:

$$\frac{\text{Breastfed children 6–23 months of age who received solid, semi-solid or soft foods the minimum number of times or more during the previous day}}{\text{Breastfed children 6–23 months of age}}$$

and

$$\frac{\text{Non-breastfed children 6–23 months of age who received solid, semi-solid or soft foods or milk feeds the minimum number of times or more during the previous day}}{\text{Non-breastfed children 6–23 months of age}}$$

Rationale:

The number of meals that an infant or young child needs in a day depends on how much energy the child needs (and, if the child is breastfed, the amount of energy needs not met by breast milk), the amount that a child can eat at each meal, and the energy density of the food offered. When energy density of the meals is between 0.8–1 kcal/g, breastfed infants 6–8 months old need 2–3 meals per day, while breastfed children 9–23 months needs 3–4 meals per day, with 1–2 additional snacks as desired (*15*). Children who are not breastfed should be given 1–2 cups of milk[1] and 1–2 extra meals per day (*23*).

[1] Acceptable milk sources include full cream animal milk, Ultra High Temperature milk, reconstituted evaporated (but not condensed) milk, fermented milk or yogurt.

Notes on measurement:

- The sample universe for this indicator is last born children 6–23 months of age living with their mothers.
- For breastfed children, minimum is defined as 2 times for infants 6–8 months and 3 times for children 9–23 months.
- For non-breastfed children, minimum is defined as 4 times for children 6–23 months.
- Values for this indicator could not be calculated for non-breastfed children because the DHS questionnaires did not include a question about the frequency of milk feeds.

7. **Minimum acceptable diet:** Proportion of children 6–23 months of age who receive a minimum acceptable diet (apart from breast milk). The indicator is calculated from the following two fractions:

$$\frac{\text{Breastfed children 6–23 months of age who had at least the minimum dietary diversity and the minimum meal frequency during the previous day}}{\text{Breastfed children 6–23 months of age}}$$

and

$$\frac{\text{Non-breastfed children 6–23 months of age who received at least 2 milk feedings and had at least the minimum dietary diversity not including milk feeds and the minimum meal frequency during the previous day}}{\text{Non-breastfed children 6–23 months of age}}$$

Rationale:

Because appropriate feeding of children 6–23 months is multidimensional, it is important to have a composite indicator that tracks the extent to which multiple dimensions of adequate child feeding are being met. The minimum acceptable diet indicator combines standards of dietary diversity and feeding frequency by breastfeeding status. The numerator includes only those children who have received both the minimum dietary diversity and the minimum meal frequency for the child's breastfeeding status. The indicator thus provides a useful way to track progress at simultaneously improving the key quality and quantity dimensions of children's diets.

Notes on measurement:

- The sample universe for this indicator is last born children 6–23 months of age living with their mothers.
- Values for this indicator could not be calculated for non-breastfed children because the DHS questionnaires did not include a question about the frequency of milk feeds.

OPTIONAL INDICATORS

8. **Children ever breastfed:** Proportion of children born in the last 24 months who were ever breastfed.

$$\frac{\text{Children born in the last 24 months who were ever breastfed}}{\text{Children born in the last 24 months}}$$

Rationale:

The proportion of children ever breastfed is a reflection of the 'culture' of breastfeeding and of care practices around childbirth.

Notes on measurement:

- This indicator is based on historic recall. The denominator and numerator include living and deceased children who were born within the past 24 months.

9. **Continued breastfeeding at 2 years:** Proportion of children 20–23 months of age who are fed breast milk.

$$\frac{\text{Children 20–23 months of age who received breast milk during the previous day}}{\text{Children 20–23 months of age}}$$

Rationale:

WHO and UNICEF recommend breastfeeding up to 2 years or beyond (*24*). Assessing breastfeeding among children 20–23 months provides a more accurate measure of those receiving the full benefit of breastfeeding for two years than measures taken for younger age intervals.

Notes on measurement:

- The sample universe for this indicator includes last born children 20–23 months of age living with their mothers.

10. **Age-appropriate breastfeeding:** Proportion of children 0–23 months of age who are appropriately breastfed.

$$\frac{\text{Infants 0–5 months of age who received only breast milk during the previous day}}{\text{Infants 0–5 months of age}}$$

and

$$\frac{\text{Children 6–23 months of age who received breast milk, as well as solid, semi-solid or soft foods, during the previous day}}{\text{Children 6–23 months of age}}$$

Rationale:

Age appropriate breastfeeding is a summary measure of the proportion of children less than 2 years of age who are appropriately breastfed and who receive complementary foods when needed.

Notes on measurement:

- The sample universe for this indicator is last born children 0–23 months of age living with their mothers.
- This indicator captures information about exclusive breastfeeding for children 0–5 months; and about the dual practice of breastfeeding and complementary feeding for children 6–23 months.

11. **Predominant breastfeeding under 6 months:** Proportion of infants 0–5 months of age who are predominantly breastfed.

$$\frac{\text{Infants 0–5 months of age who received breast milk as the predominant source of nourishment during the previous day}}{\text{Infants 0–5 months of age}}$$

Rationale:

Two studies comparing mortality during infancy showed that predominant breastfeeding is associated with substantially lower risk of deaths compared with partial or no breastfeeding (*25, 26*). Although these studies did not find any significant difference on mortality between exclusive and predominant breastfeeding, there are other reasons to recommend exclusive breastfeeding as the preferred option. Predominant breastfeeding has been associated with an increase risk of diarrhoea (*27, 28*). Avoidance of any liquids other than breast milk is key to ensure appropriate feeding of infants less than 6 months of age, unless there is a medical reason to do otherwise (*29*).

Notes on measurement:

- The sample universe for this indicator is last born children 0–5 months of age living with the mother.
- Predominant breastfeeding 'allows' ORS, vitamin and/or mineral supplements, ritual fluids, water and water-based drinks, and fruit juice. Other liquids, including non-human milks and food-based fluids, are not allowed, and no semi-solid or solid foods are allowed.

12. **Bottle feeding:** Proportion of children 0–23 months of age who are fed with a bottle.

$$\frac{\text{Children 0–23 months of age who were fed with a bottle during the previous day}}{\text{Children 0–23 months of age}}$$

Rationale:

When bottle feeding is associated with unhygienic conditions and poor preparation of infant formula, it puts the infant at a great risk of illness, resulting in increased risk of mortality. Feeding an infant from a bottle with an artificial teat may also make it more difficult for the baby to learn to attach well at the breast and has been associated with earlier cessation of breastfeeding (*30*). If an infant can not feed directly from the breast, then the safest alternative is to feed expressed breast milk from a cup (*31*).

Notes on measurement:

- The sample universe of this indicator is last born children 0–23 months of age living with their mothers.

13. **Duration of breastfeeding:** Median duration of breastfeeding among children less than 36 months of age.

The age in months when 50% of children 0–35 months did not receive breast milk during the previous day.

Rationale:

This indicator is a proxy measure of the average number of months that children are breastfed and it adds to the understanding of when mothers may decide to discontinue breastfeeding.

Notes on measurement:

- The sample universe for this indicator includes all living and deceased children 0–35 months of age.

ADDITIONAL INDICATORS

Mortality indicators

- **Infant mortality rate:** probability of dying between birth and age 1 per 1000 live births.
- **Under-5 mortality rate:** probability of dying by age 5 per thousand live births.

Nutritional status indicators

Children under five years of age who are suffering from:

- **underweight:** proportion of children less than 5 years of age with weight for age < -2 z-scores of the median WHO child growth standards.
- **stunting:** proportion of children less than 5 years of age with length or height for age < -2 z-scores of the median WHO child growth standards.
- **overweight:** proportion of children less than 5 years of age with weight for length or height > +2 z-scores of the median WHO child growth standards.

Values of all additional indicators were derived from the World Health Statistics (WHS), 2010 (*1*).

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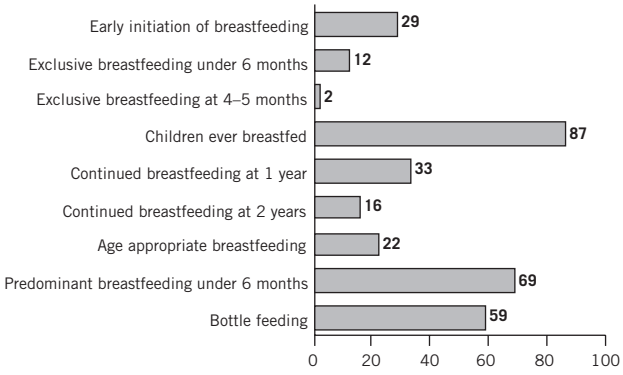
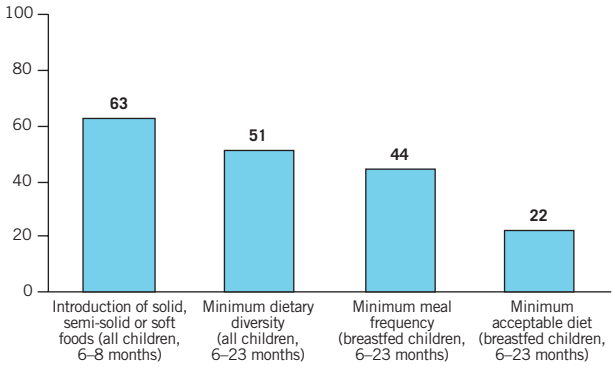
Country profiles

AZERBAIJAN

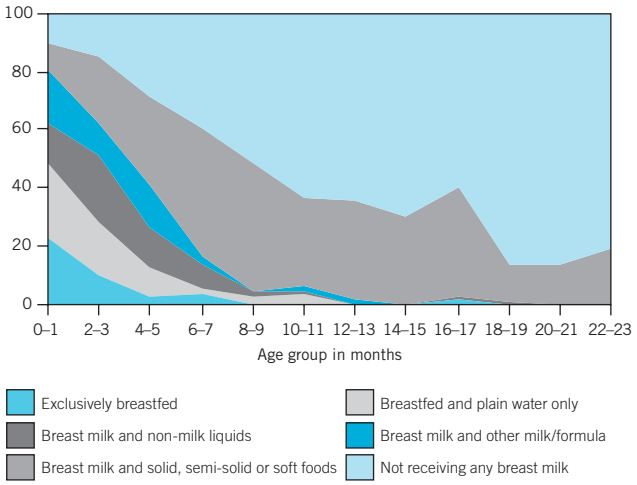
Breastfeeding indicators (%)



Complementary feeding indicators (%)



Infant and young child feeding practices by age (%)



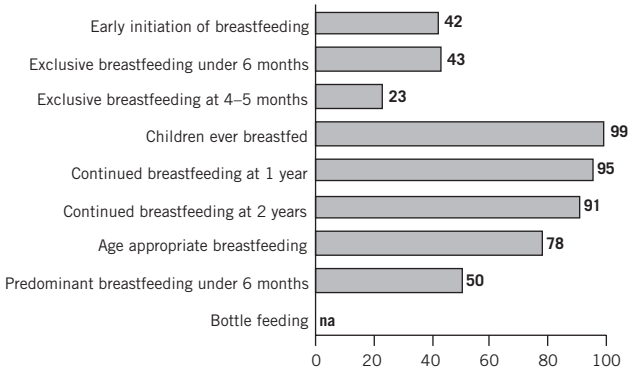
Additional indicators

Infant mortality (rate per thousand live births)	32
Under-5 mortality (rate per thousand live births)	36
% of children under five years of age who are suffering from:	
Underweight	8
Stunting	27
Overweight	14

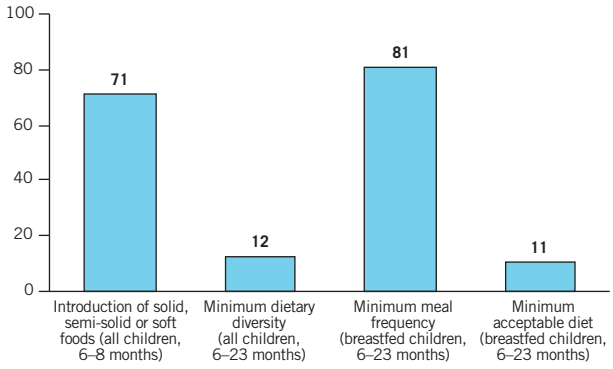
Source: DHS (2006), WHS (2010).

BANGLADESH

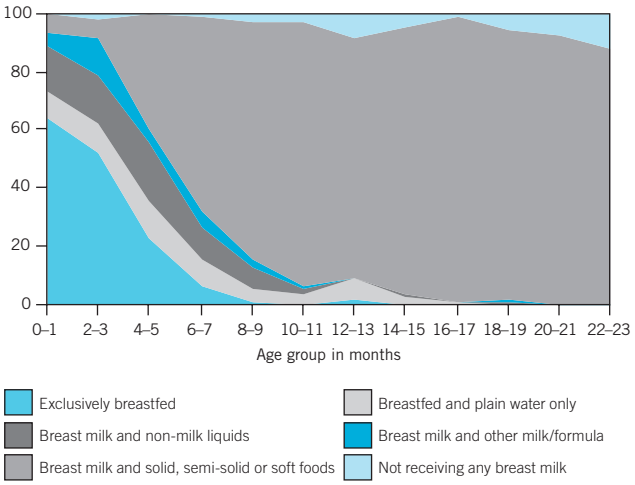
Breastfeeding indicators (%)



Complementary feeding indicators (%)



Infant and young child feeding practices by age (%)



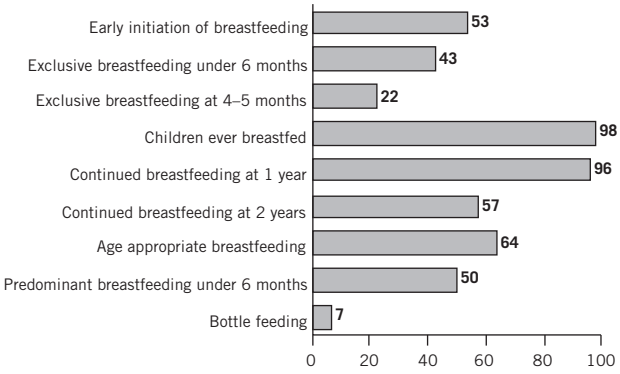
Additional indicators

Infant mortality (rate per thousand live births)	43
Under-5 mortality (rate per thousand live births)	54
% of children under five years of age who are suffering from:	
Underweight	41
Stunting	43
Overweight	1

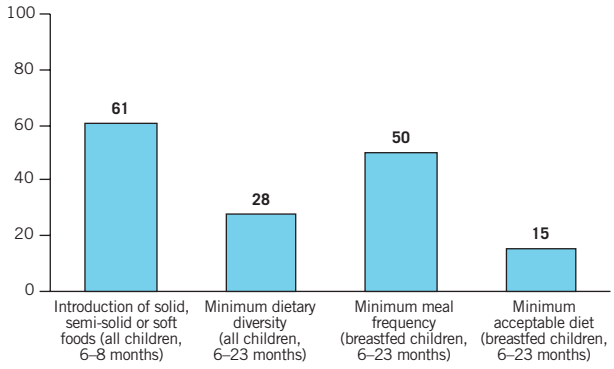
Source: DHS (2007), WHS (2010).

BENIN

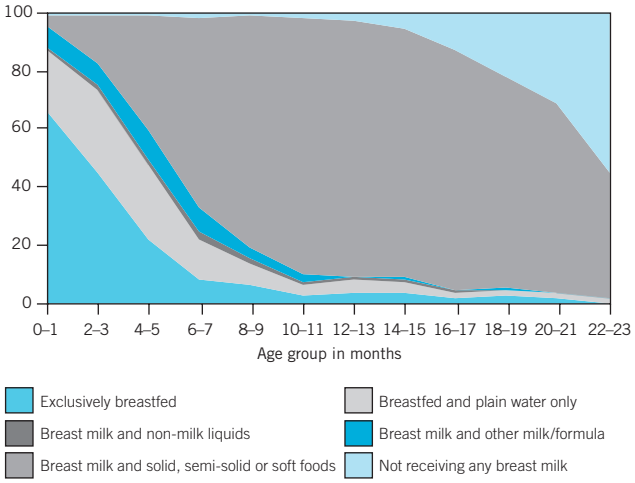
Breastfeeding indicators (%)



Complementary feeding indicators (%)



Infant and young child feeding practices by age (%)



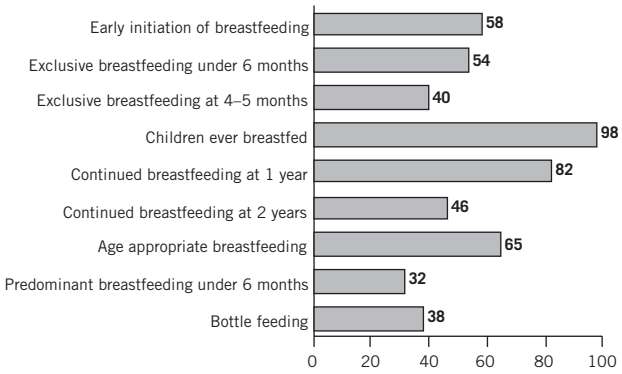
Additional indicators

Infant mortality (rate per thousand live births)	76
Under-5 mortality (rate per thousand live births)	121
% of children under five years of age who are suffering from:	
Underweight	20
Stunting	45
Overweight	11

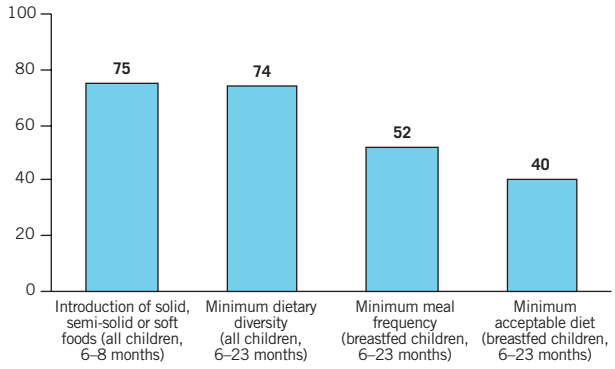
Source: DHS (2006), WHS (2010).

BOLIVIA

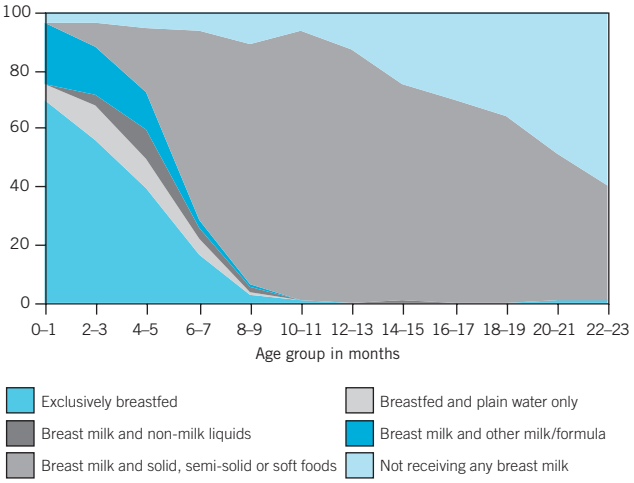
Breastfeeding indicators (%)



Complementary feeding indicators (%)



Infant and young child feeding practices by age (%)



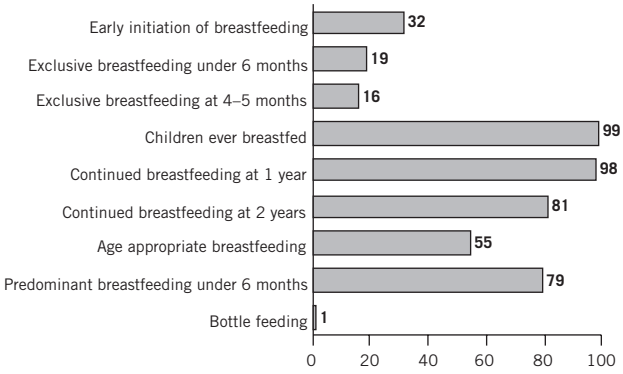
Additional indicators

Infant mortality (rate per thousand live births)	46
Under-5 mortality (rate per thousand live births)	54
% of children under five years of age who are suffering from:	
Underweight	4
Stunting	27
Overweight	9

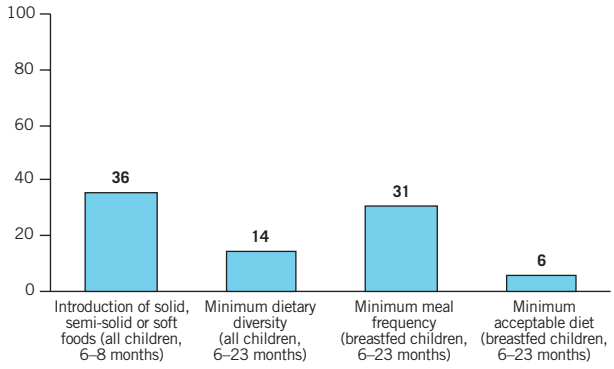
Source: DHS (2003), WHS (2010).

BURKINA FASO

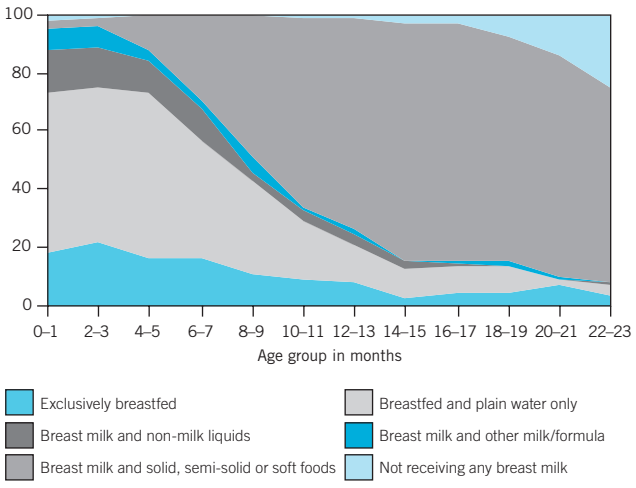
Breastfeeding indicators (%)



Complementary feeding indicators (%)



Infant and young child feeding practices by age (%)



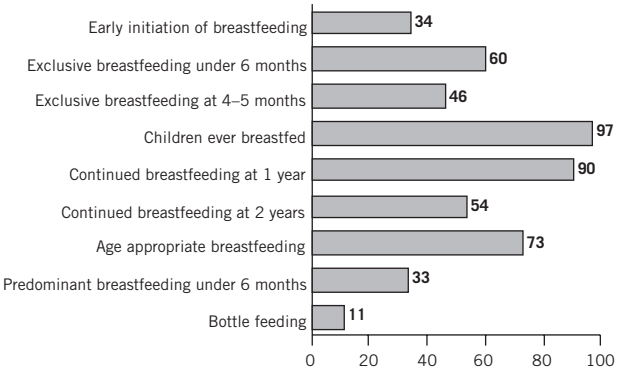
Additional indicators

Infant mortality (rate per thousand live births)	92
Under-5 mortality (rate per thousand live births)	169
% of children under five years of age who are suffering from:	
Underweight	37
Stunting	45
Overweight	8

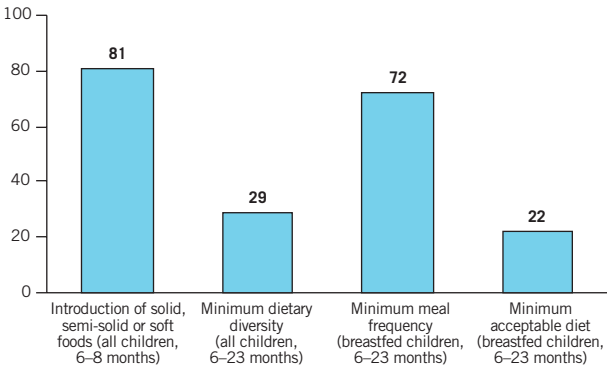
Source: DHS (2003), WHS (2010).

CAMBODIA

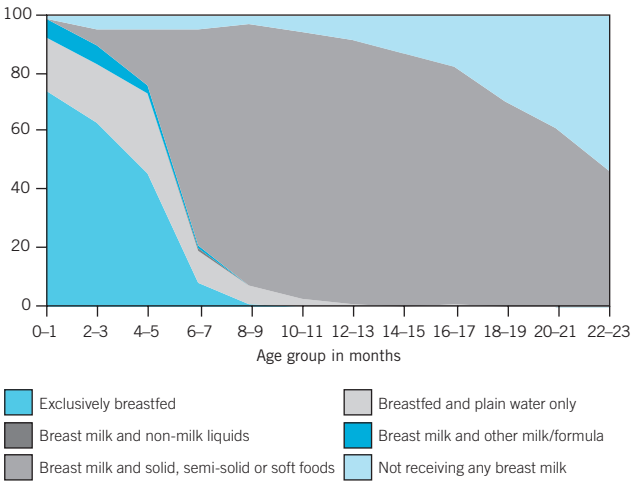
Breastfeeding indicators (%)



Complementary feeding indicators (%)



Infant and young child feeding practices by age (%)



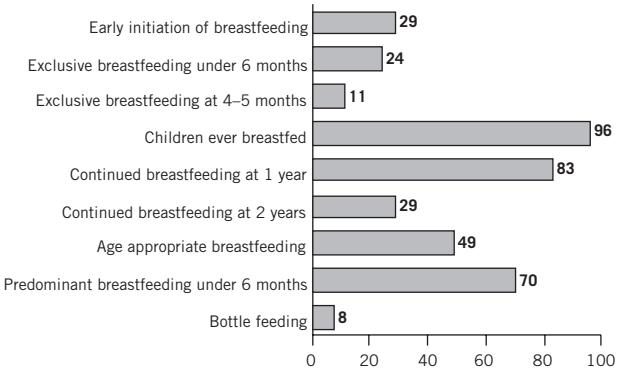
Additional indicators

Infant mortality (rate per thousand live births)	69
Under-5 mortality (rate per thousand live births)	89
% of children under five years of age who are suffering from:	
Underweight	29
Stunting	40
Overweight	2

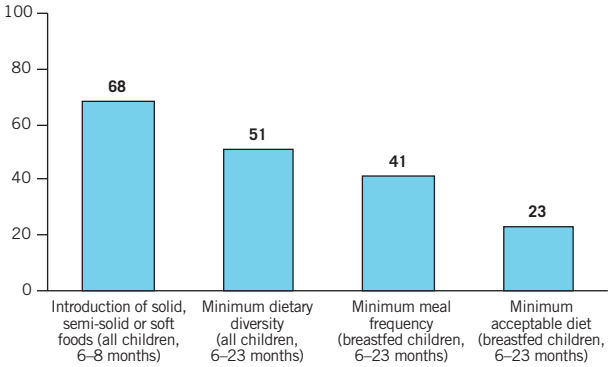
Source: DHS (2005), WHS (2010).

CAMEROON

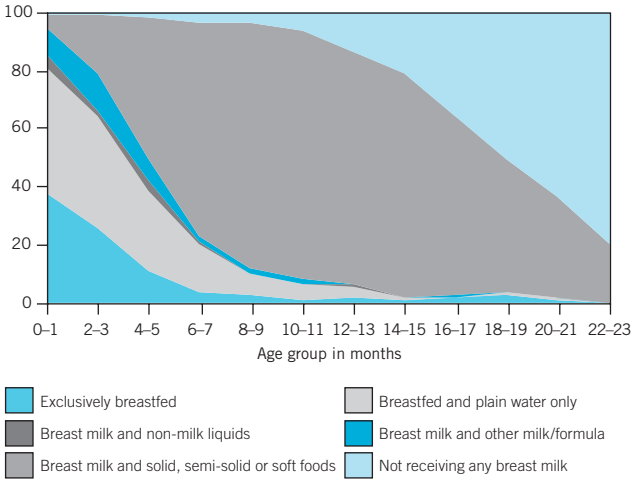
Breastfeeding indicators (%)



Complementary feeding indicators (%)



Infant and young child feeding practices by age (%)



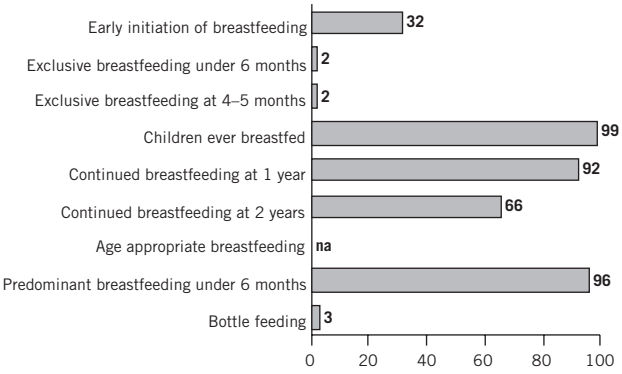
Additional indicators

Infant mortality (rate per thousand live births)	82
Under-5 mortality (rate per thousand live births)	131
% of children under five years of age who are suffering from:	
Underweight	17
Stunting	36
Overweight	10

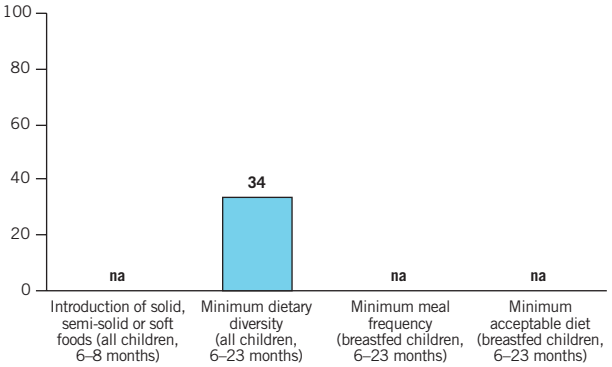
Source: DHS (2004), WHS (2010).

CHAD

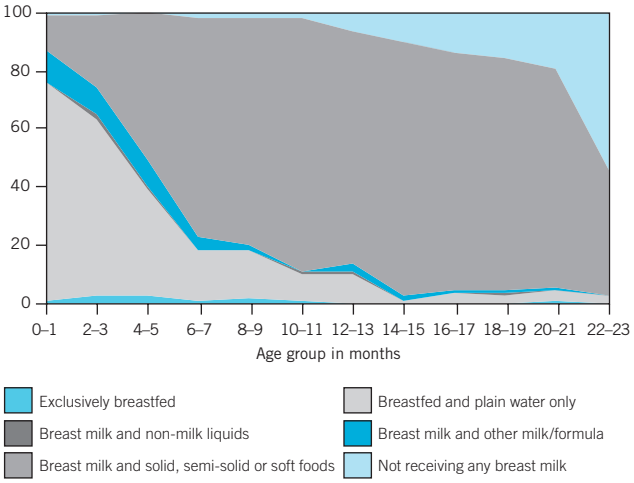
Breastfeeding indicators (%)



Complementary feeding indicators (%)



Infant and young child feeding practices by age (%)



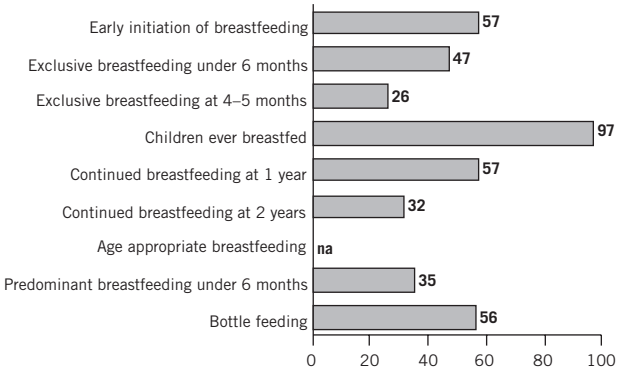
Additional indicators

Infant mortality (rate per thousand live births)	124
Under-5 mortality (rate per thousand live births)	209
% of children under five years of age who are suffering from:	
Underweight	34
Stunting	45
Overweight	4

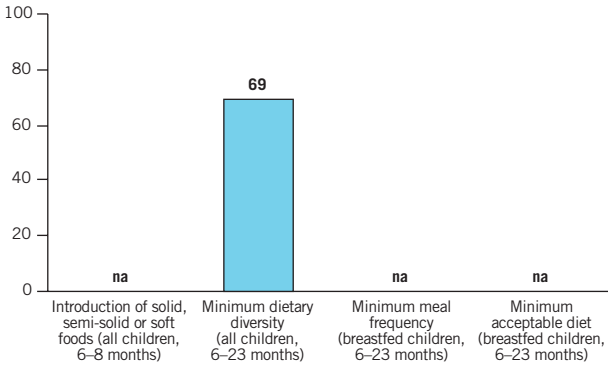
Source: DHS (2004), WHS (2010).

COLOMBIA

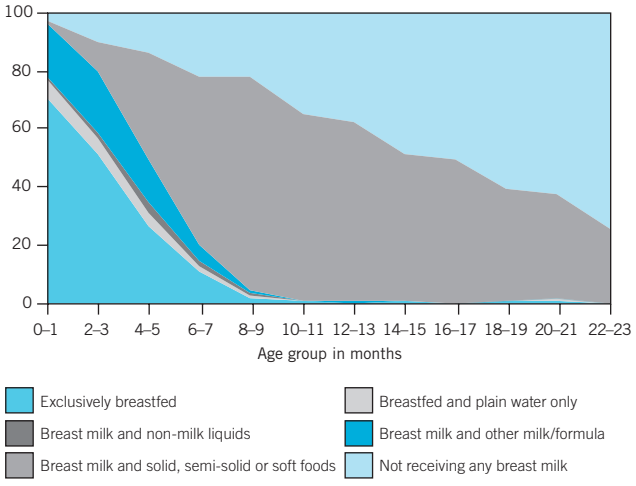
Breastfeeding indicators (%)



Complementary feeding indicators (%)



Infant and young child feeding practices by age (%)



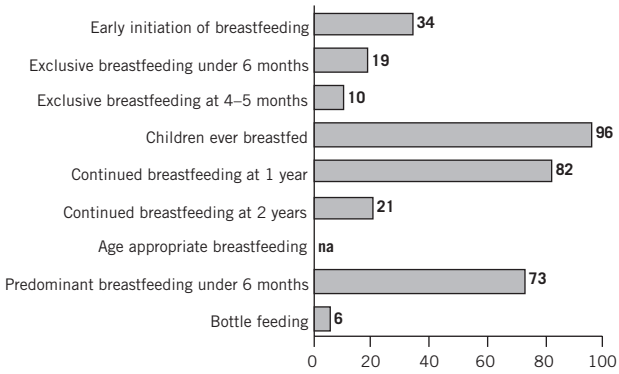
Additional indicators

Infant mortality (rate per thousand live births)	16
Under-5 mortality (rate per thousand live births)	20
% of children under five years of age who are suffering from:	
Underweight	5
Stunting	16
Overweight	4

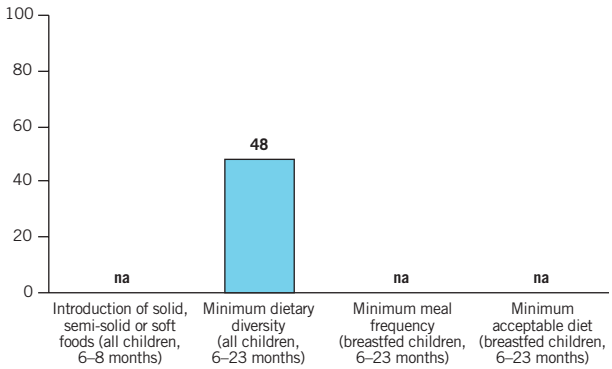
Source: DHS (2005), WHS (2010).

CONGO (BRAZZAVILLE)

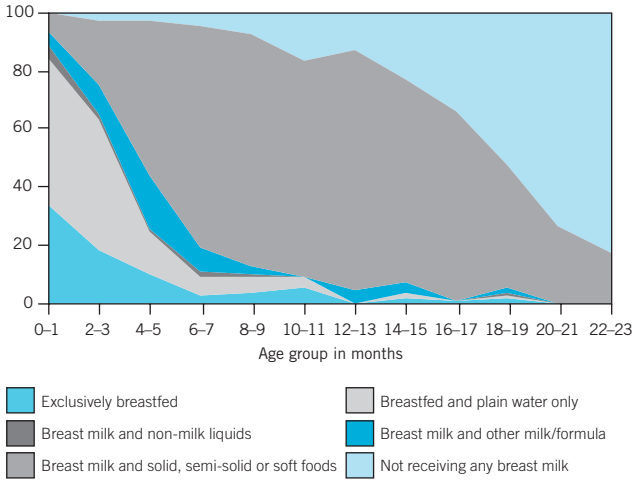
Breastfeeding indicators (%)



Complementary feeding indicators (%)



Infant and young child feeding practices by age (%)



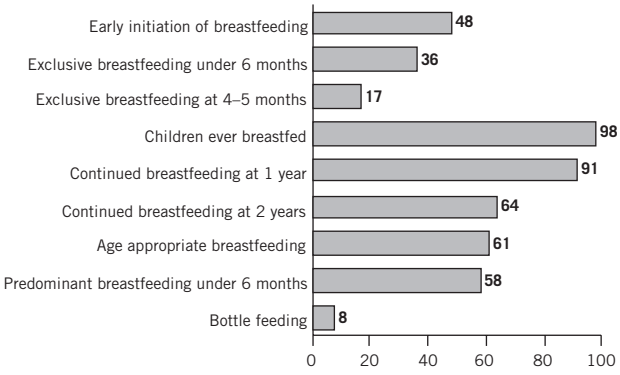
Additional indicators

Infant mortality (rate per thousand live births)	80
Under-5 mortality (rate per thousand live births)	127
% of children under five years of age who are suffering from:	
Underweight	12
Stunting	31
Overweight	9

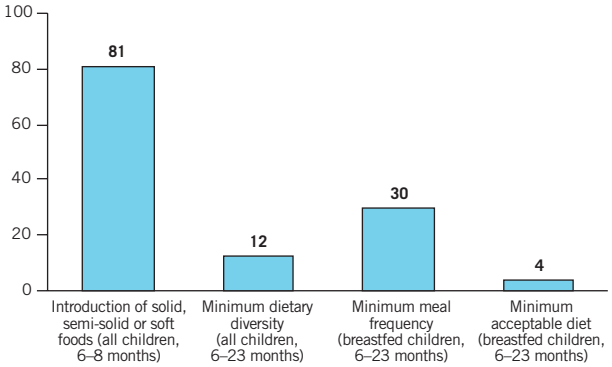
Source: DHS (2005), WHS (2010).

DEMOCRATIC REPUBLIC OF THE CONGO

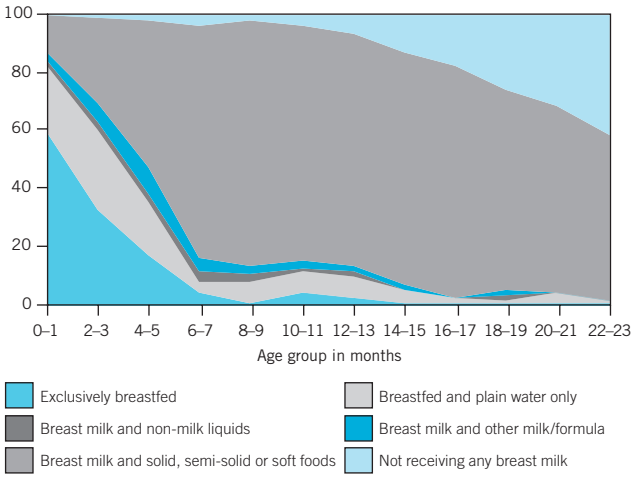
Breastfeeding indicators (%)



Complementary feeding indicators (%)



Infant and young child feeding practices by age (%)



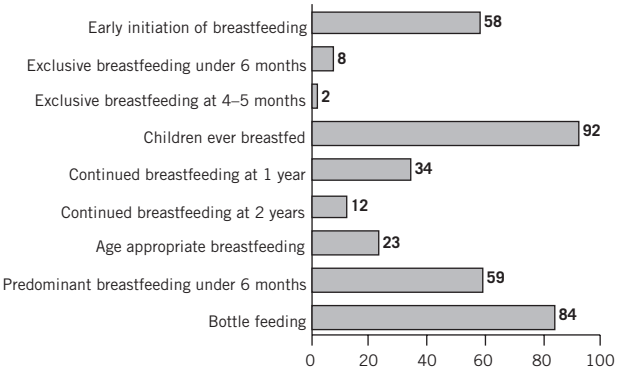
Additional indicators

Infant mortality (rate per thousand live births)	126
Under-5 mortality (rate per thousand live births)	199
% of children under five years of age who are suffering from:	
Underweight	28
Stunting	46
Overweight	7

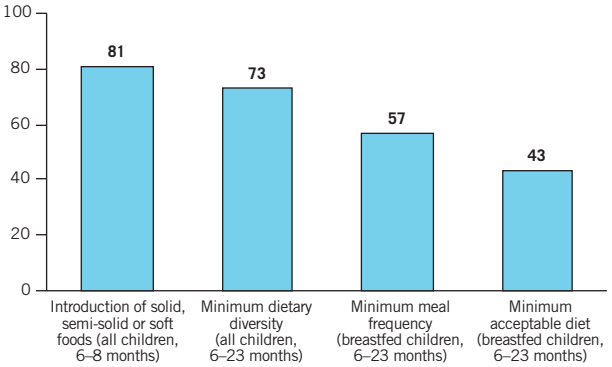
Source: DHS (2007), WHS (2010).

DOMINICAN REPUBLIC

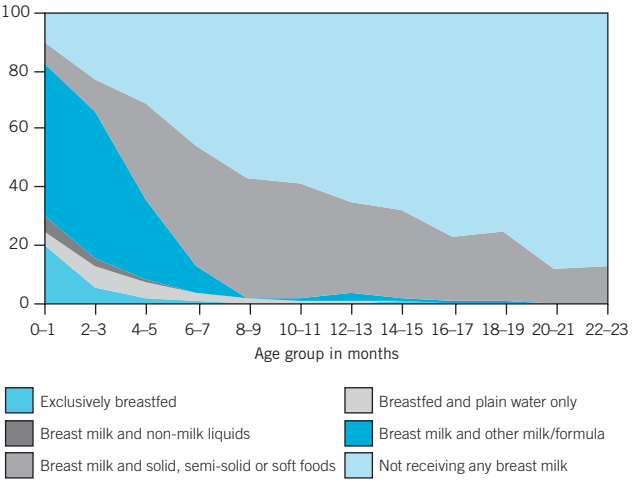
Breastfeeding indicators (%)



Complementary feeding indicators (%)



Infant and young child feeding practices by age (%)



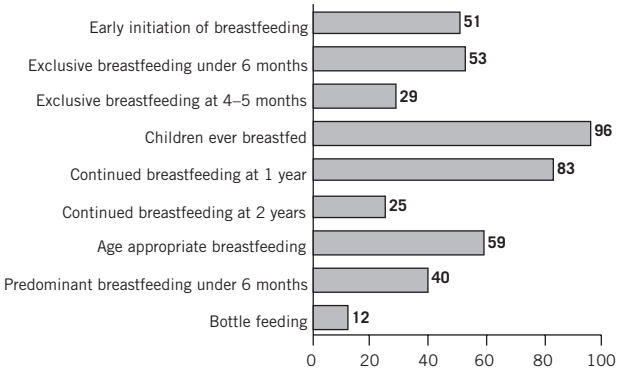
Additional indicators

Infant mortality (rate per thousand live births)	27
Under-5 mortality (rate per thousand live births)	33
% of children under five years of age who are suffering from:	
Underweight	3
Stunting	10
Overweight	8

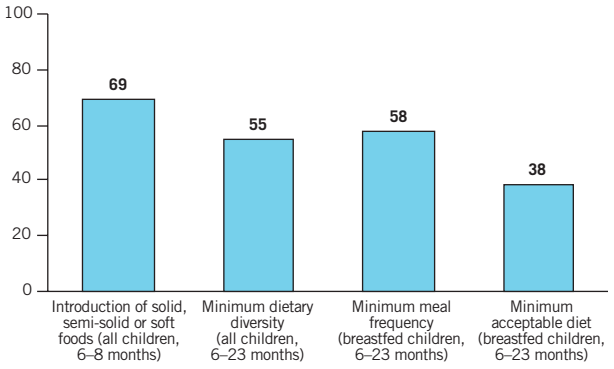
Source: DHS (2007), WHS (2010).

EGYPT

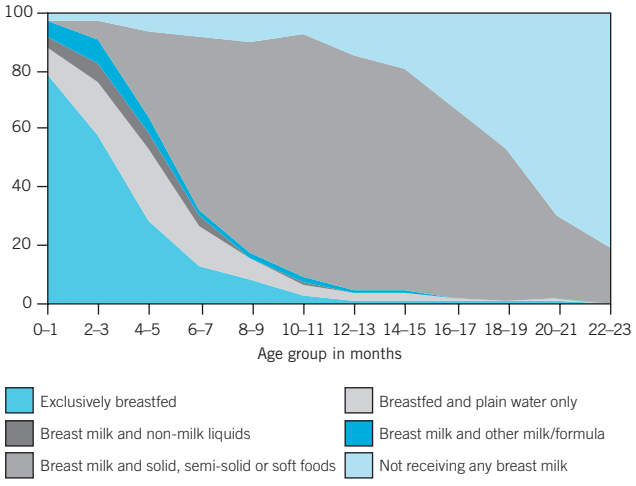
Breastfeeding indicators (%)



Complementary feeding indicators (%)



Infant and young child feeding practices by age (%)



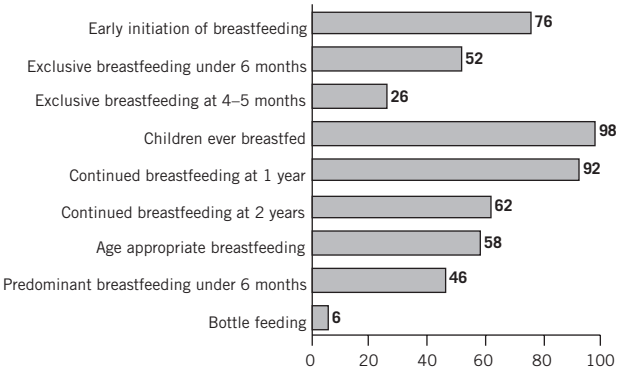
Additional indicators

Infant mortality (rate per thousand live births)	20
Under-5 mortality (rate per thousand live births)	23
% of children under five years of age who are suffering from:	
Underweight	7
Stunting	31
Overweight	21

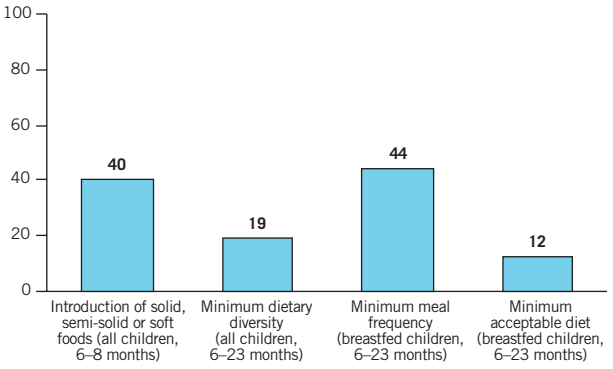
Source: DHS (2008), WHS (2010).

ERITREA

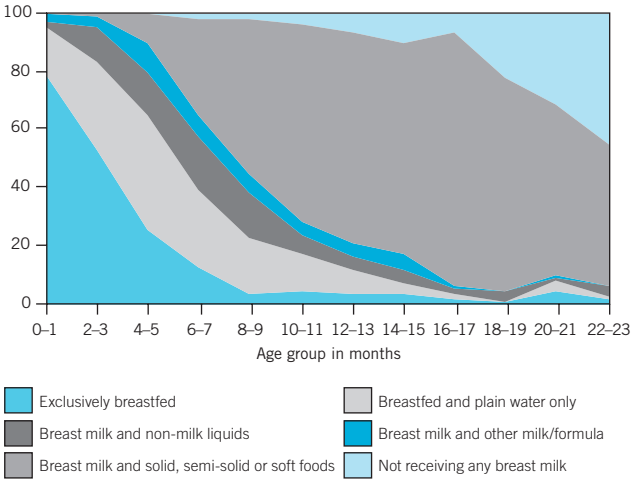
Breastfeeding indicators (%)



Complementary feeding indicators (%)



Infant and young child feeding practices by age (%)



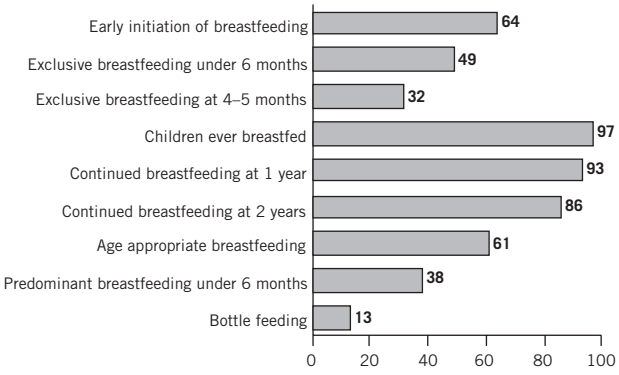
Additional indicators

Infant mortality (rate per thousand live births)	41
Under-5 mortality (rate per thousand live births)	58
% of children under five years of age who are suffering from:	
Underweight	35
Stunting	44
Overweight	2

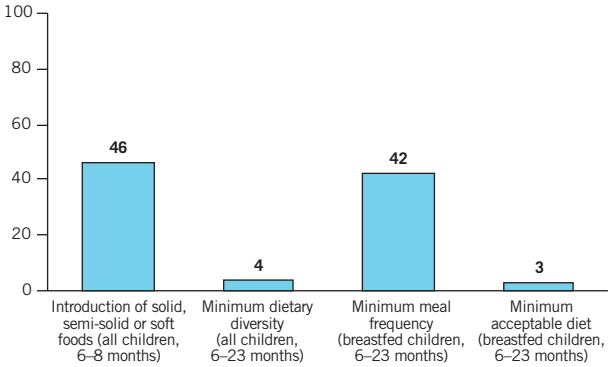
Source: DHS (2002), WHS (2010).

ETHIOPIA

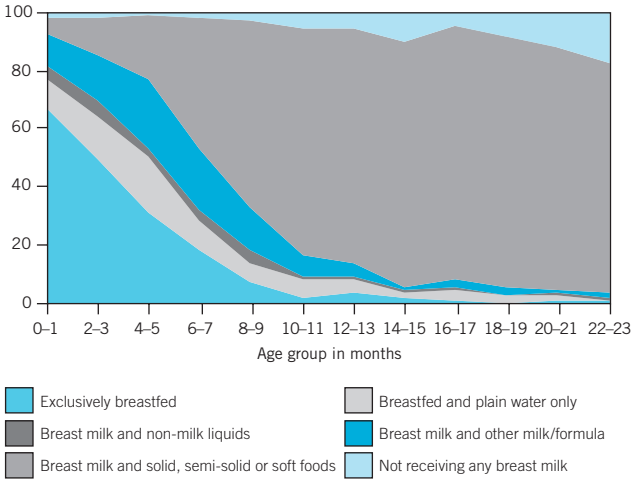
Breastfeeding indicators (%)



Complementary feeding indicators (%)



Infant and young child feeding practices by age (%)



- Exclusively breastfed
- Breastfed and plain water only
- Breast milk and non-milk liquids
- Breast milk and other milk/formula
- Breast milk and solid, semi-solid or soft foods
- Not receiving any breast milk

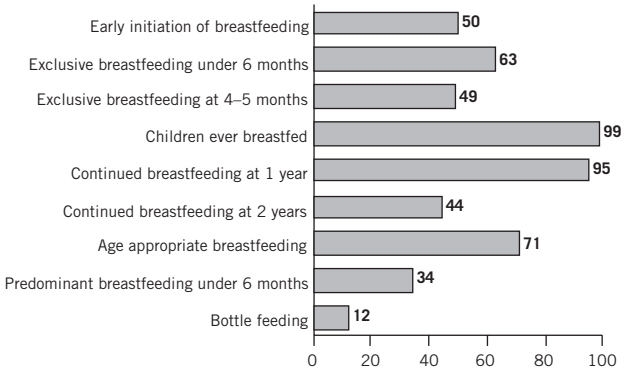
Additional indicators

Infant mortality (rate per thousand live births)	69
Under-5 mortality (rate per thousand live births)	109
% of children under five years of age who are suffering from:	
Underweight	35
Stunting	51
Overweight	5

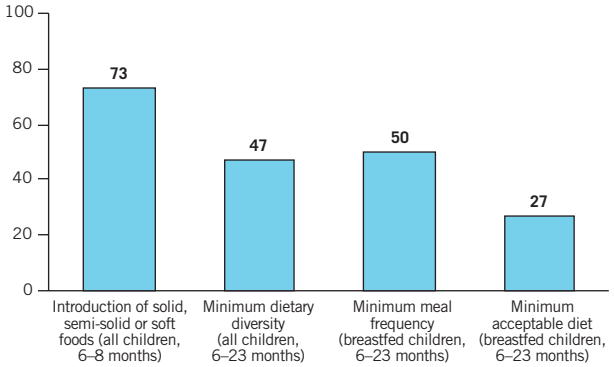
Source: DHS (2005), WHS (2010).

GHANA

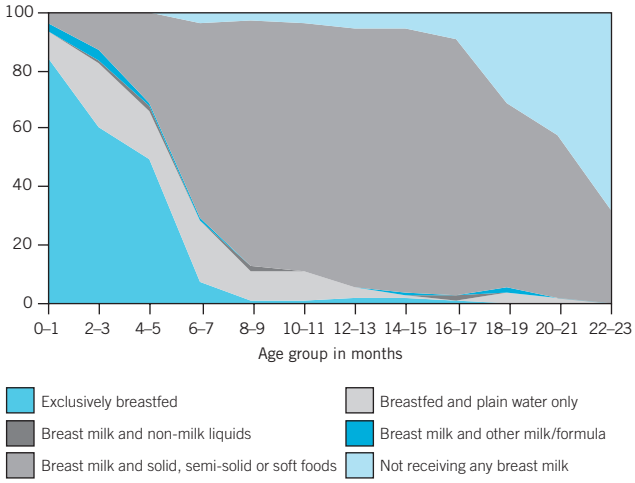
Breastfeeding indicators (%)



Complementary feeding indicators (%)



Infant and young child feeding practices by age (%)



- Exclusively breastfed
- Breastfed and plain water only
- Breast milk and non-milk liquids
- Breast milk and other milk/formula
- Breast milk and solid, semi-solid or soft foods
- Not receiving any breast milk

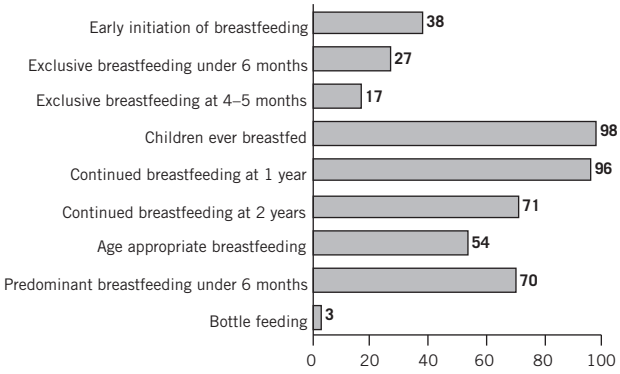
Additional indicators

Infant mortality (rate per thousand live births)	51
Under-5 mortality (rate per thousand live births)	76
% of children under five years of age who are suffering from:	
Underweight	14
Stunting	29
Overweight	6

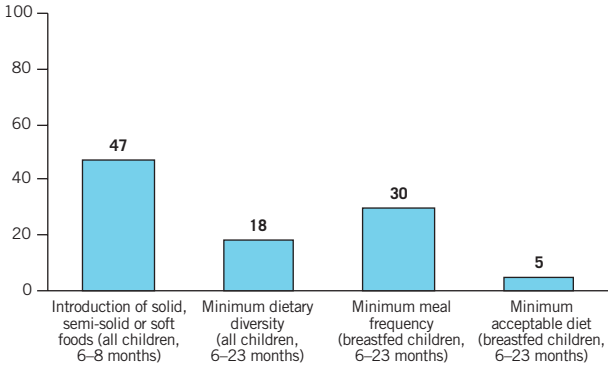
Source: DHS (2008), WHS (2010).

GUINEA

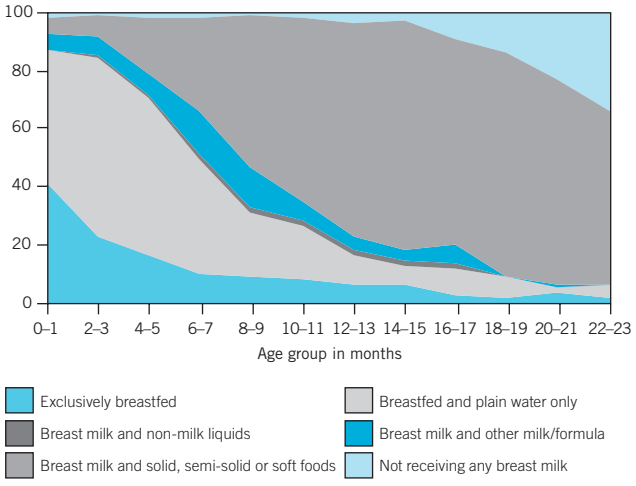
Breastfeeding indicators (%)



Complementary feeding indicators (%)



Infant and young child feeding practices by age (%)



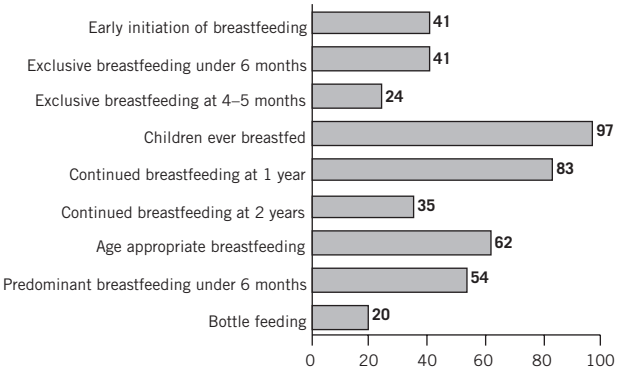
Additional indicators

Infant mortality (rate per thousand live births)	90
Under-5 mortality (rate per thousand live births)	146
% of children under five years of age who are suffering from:	
Underweight	21
Stunting	40
Overweight	…

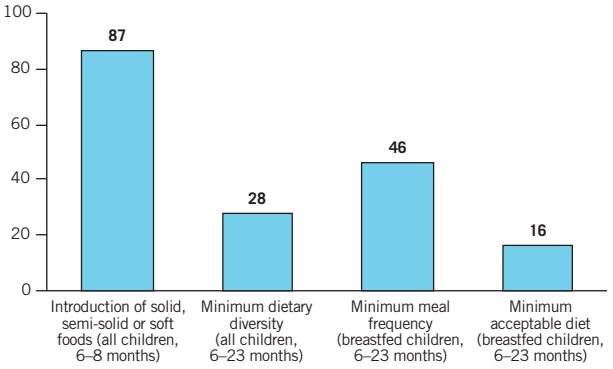
Source: DHS (2005), WHS (2010).

HAITI

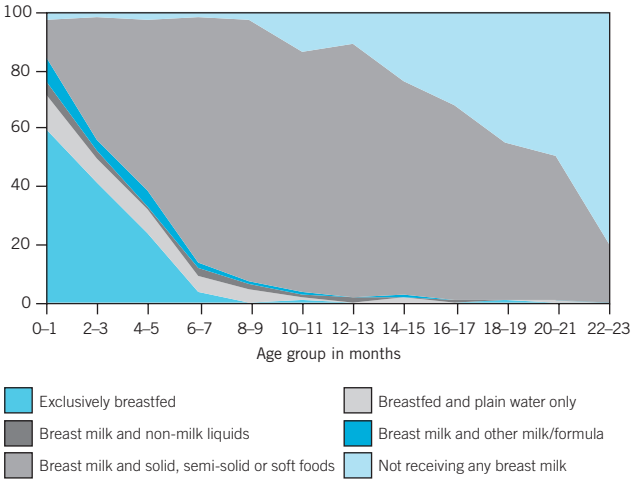
Breastfeeding indicators (%)



Complementary feeding indicators (%)



Infant and young child feeding practices by age (%)



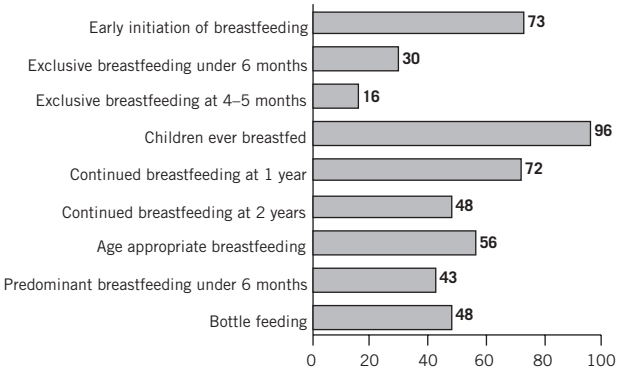
Additional indicators

Infant mortality (rate per thousand live births)	54
Under-5 mortality (rate per thousand live births)	72
% of children under five years of age who are suffering from:	
Underweight	19
Stunting	30
Overweight	4

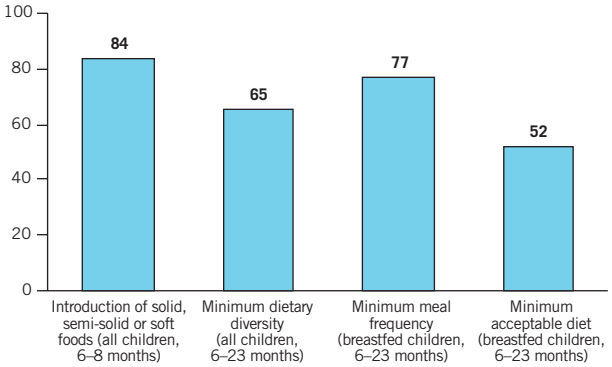
Source: DHS (2005–06), WHS (2010).

HONDURAS

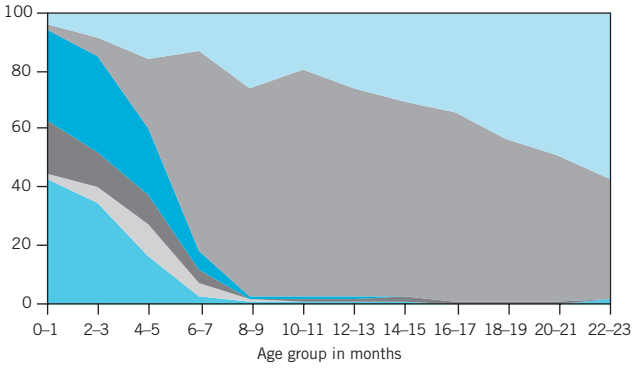
Breastfeeding indicators (%)



Complementary feeding indicators (%)



Infant and young child feeding practices by age (%)



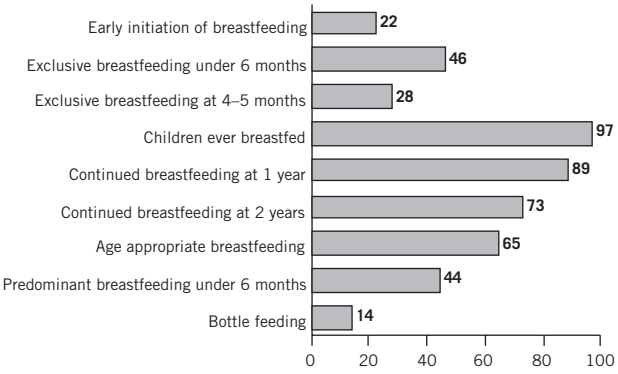
Additional indicators

Infant mortality (rate per thousand live births)	26
Under-5 mortality (rate per thousand live births)	31
% of children under five years of age who are suffering from:	
Underweight	9
Stunting	30
Overweight	6

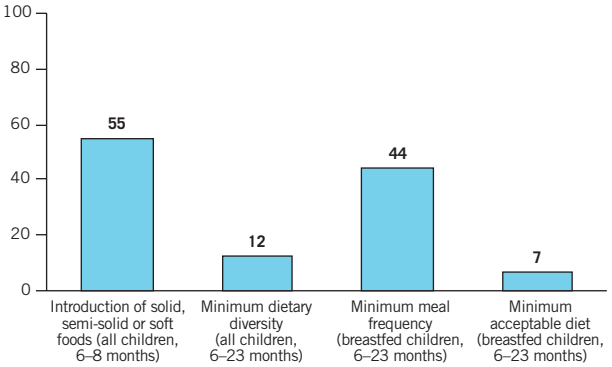
Source: DHS (2005–06), WHS (2010).

INDIA

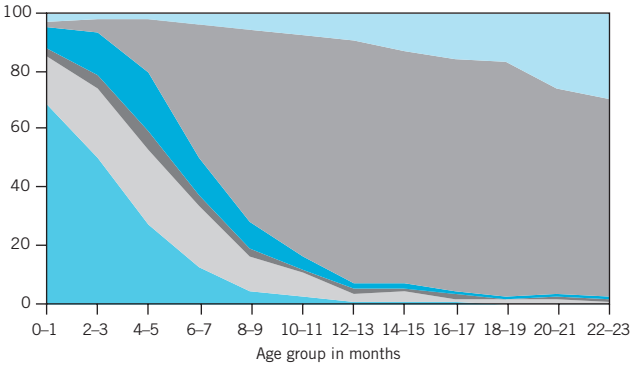
Breastfeeding indicators (%)



Complementary feeding indicators (%)



Infant and young child feeding practices by age (%)



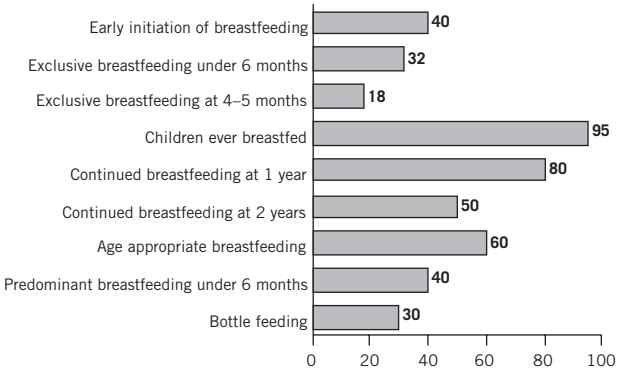
Additional indicators

Infant mortality (rate per thousand live births)	52
Under-5 mortality (rate per thousand live births)	69
% of children under five years of age who are suffering from:	
Underweight	44
Stunting	48
Overweight	2

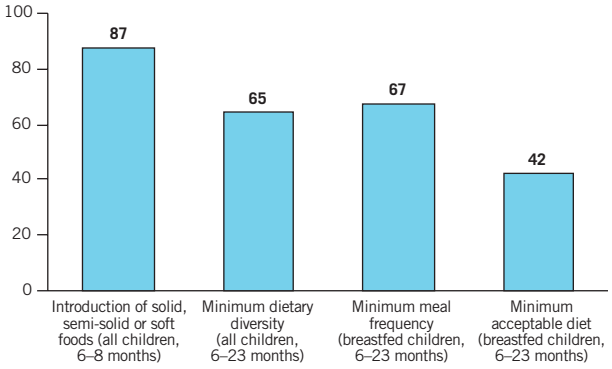
Source: DHS (2005–06), WHS (2010).

INDONESIA

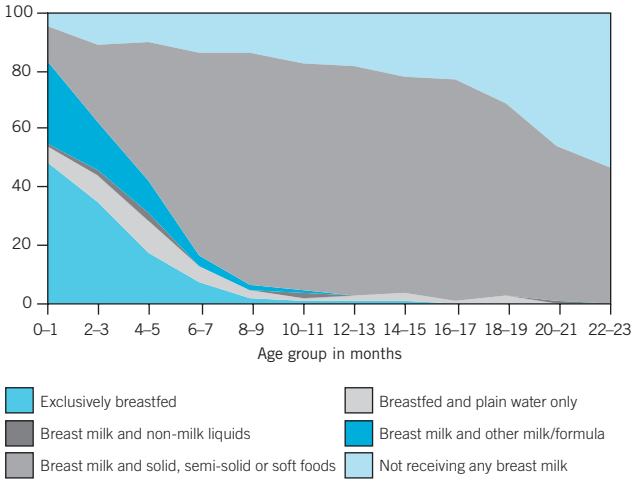
Breastfeeding indicators (%)



Complementary feeding indicators (%)



Infant and young child feeding practices by age (%)



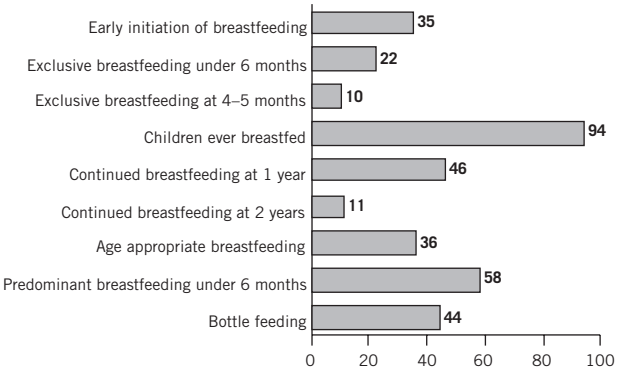
Additional indicators

Infant mortality (rate per thousand live births)	31
Under-5 mortality (rate per thousand live births)	41
% of children under five years of age who are suffering from:	
Underweight	20
Stunting	40
Overweight	11

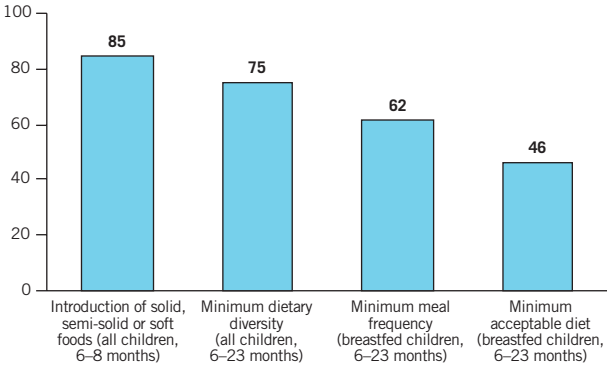
Source: DHS (2007), WHS (2010).

JORDAN

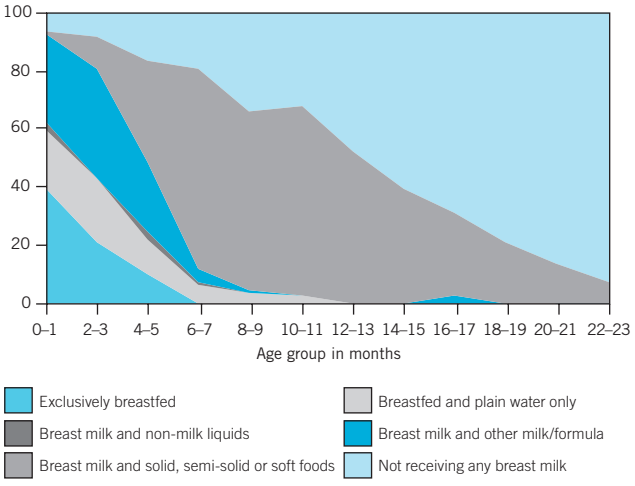
Breastfeeding indicators (%)



Complementary feeding indicators (%)



Infant and young child feeding practices by age (%)



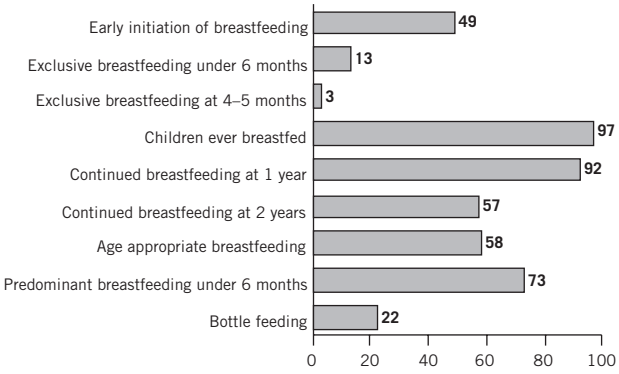
Additional indicators

Infant mortality (rate per thousand live births)	17
Under-5 mortality (rate per thousand live births)	20
% of children under five years of age who are suffering from:	
Underweight	4
Stunting	12
Overweight	5

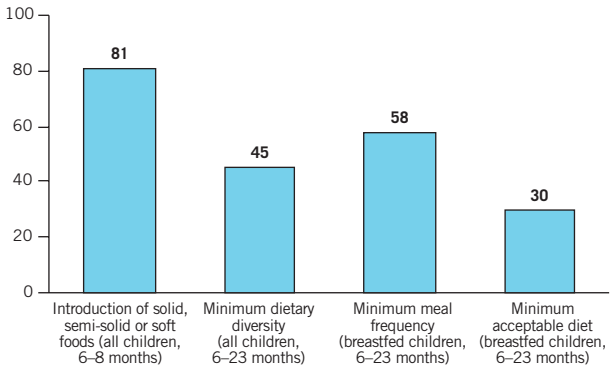
Source: DHS (2007), WHS (2010).

KENYA

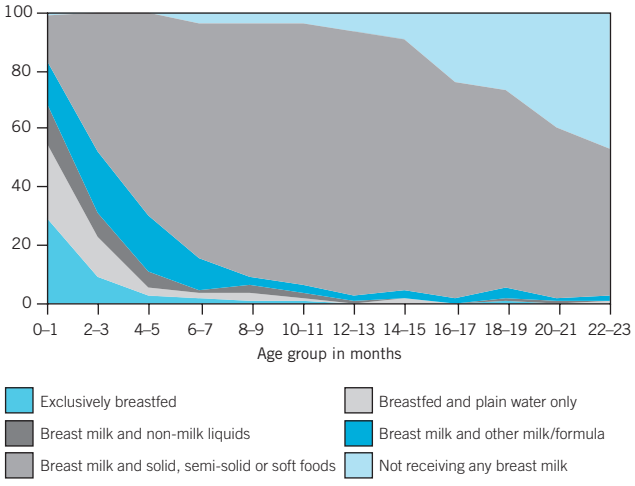
Breastfeeding indicators (%)



Complementary feeding indicators (%)



Infant and young child feeding practices by age (%)



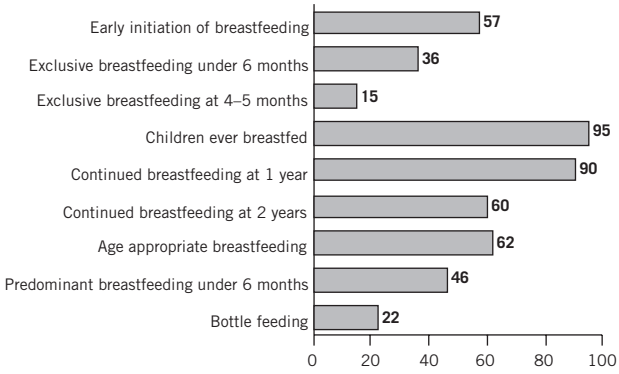
Additional indicators

Infant mortality (rate per thousand live births)	81
Under-5 mortality (rate per thousand live births)	128
% of children under five years of age who are suffering from:	
Underweight	17
Stunting	36
Overweight	6

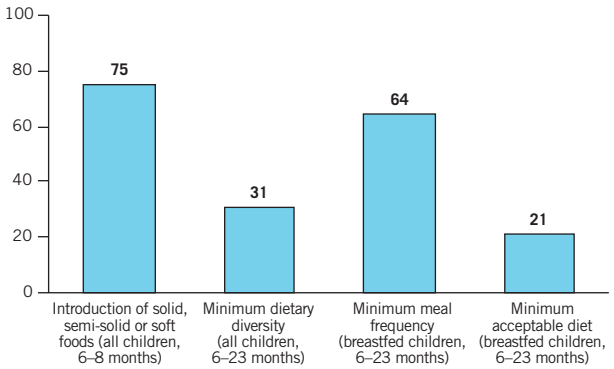
Source: DHS (2003), WHS (2010).

LESOTHO

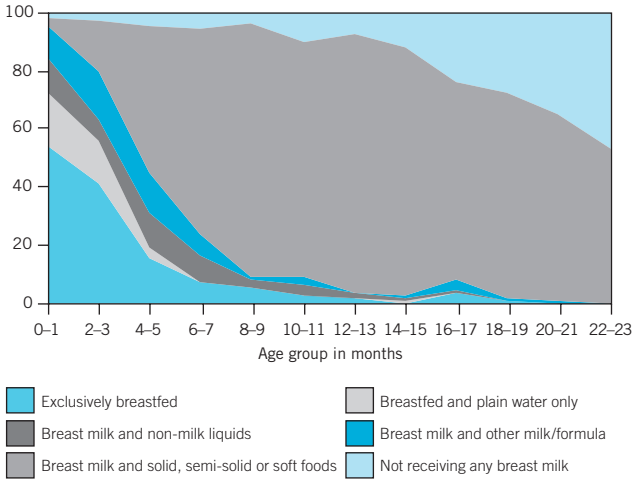
Breastfeeding indicators (%)



Complementary feeding indicators (%)



Infant and young child feeding practices by age (%)



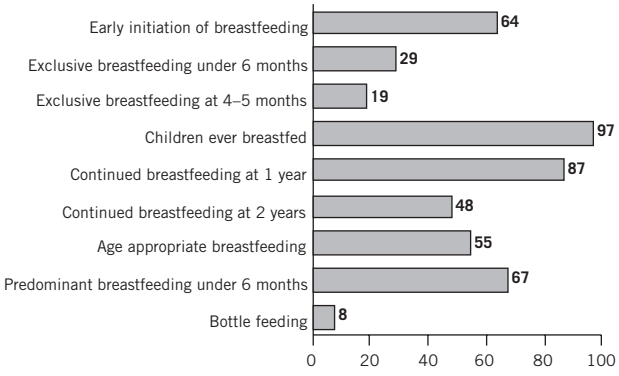
Additional indicators

Infant mortality (rate per thousand live births)	63
Under-5 mortality (rate per thousand live births)	79
% of children under five years of age who are suffering from:	
Underweight	17
Stunting	45
Overweight	7

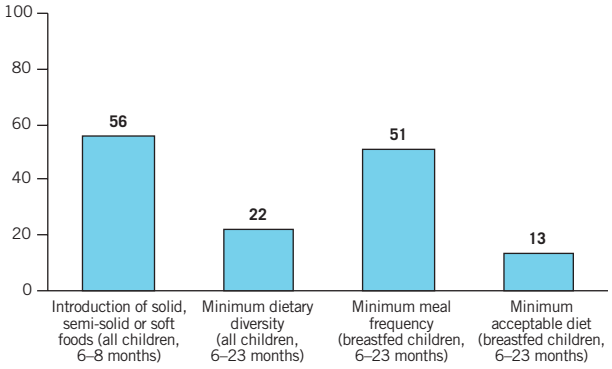
Source: DHS (2004), WHS (2010).

LIBERIA

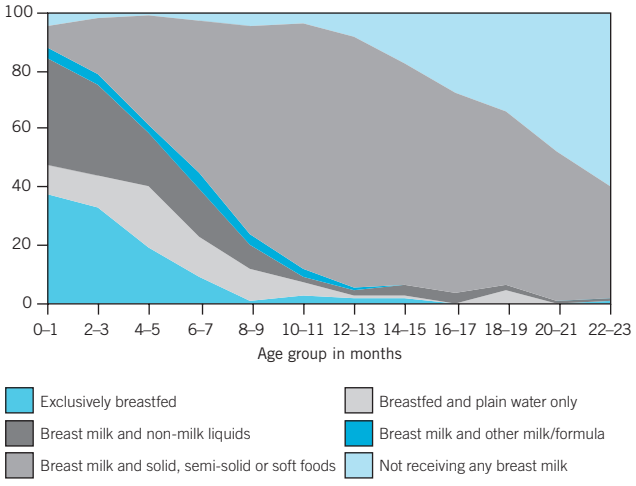
Breastfeeding indicators (%)



Complementary feeding indicators (%)



Infant and young child feeding practices by age (%)



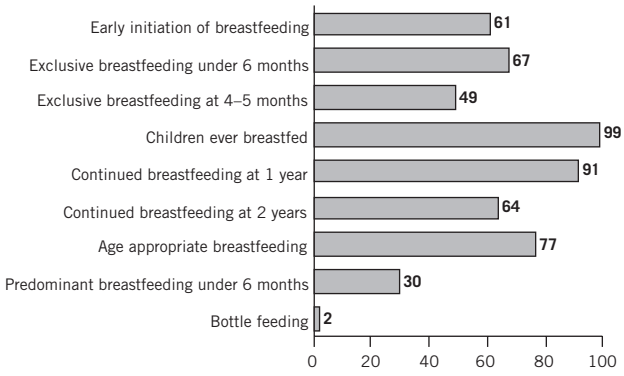
Additional indicators

Infant mortality (rate per thousand live births)	100
Under-5 mortality (rate per thousand live births)	144
% of children under five years of age who are suffering from:	
Underweight	20
Stunting	39
Overweight	4

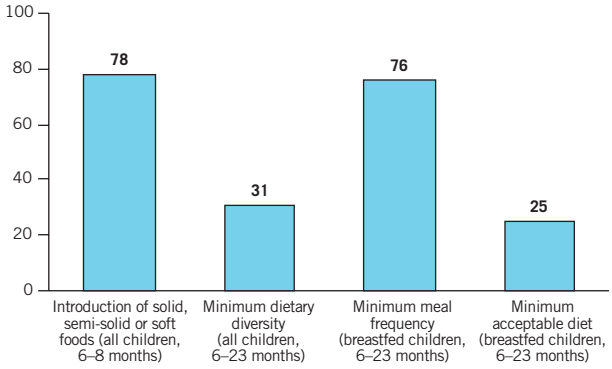
Source: DHS (2007), WHS (2010).

MADAGASCAR

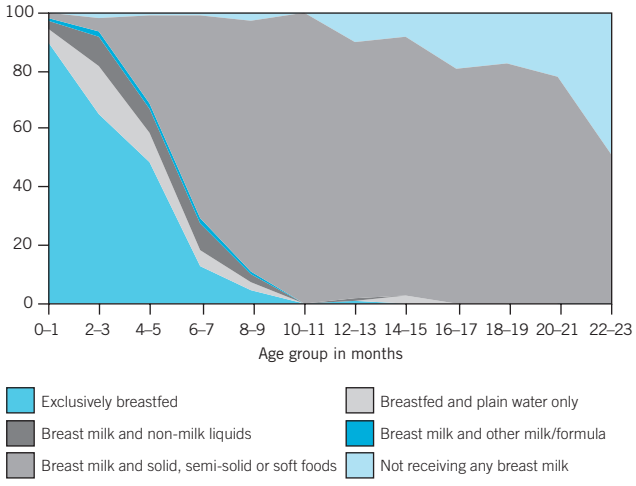
Breastfeeding indicators (%)



Complementary feeding indicators (%)



Infant and young child feeding practices by age (%)



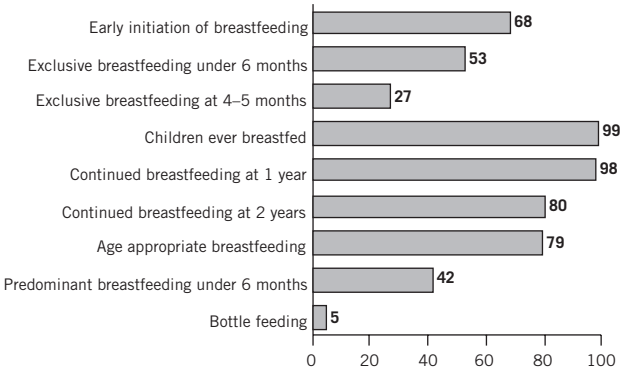
Additional indicators

Infant mortality (rate per thousand live births)	68
Under-5 mortality (rate per thousand live births)	106
% of children under five years of age who are suffering from:	
Underweight	37
Stunting	53
Overweight	6

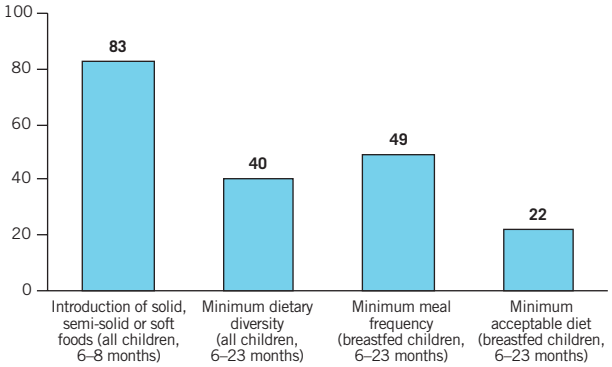
Source: DHS (2003–04), WHS (2010).

MALAWI

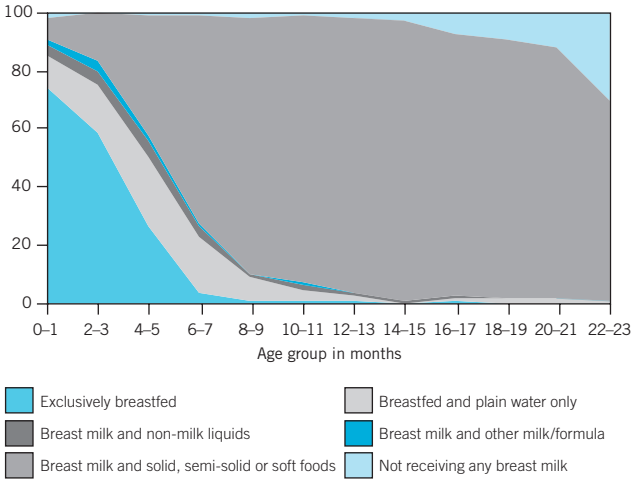
Breastfeeding indicators (%)



Complementary feeding indicators (%)



Infant and young child feeding practices by age (%)



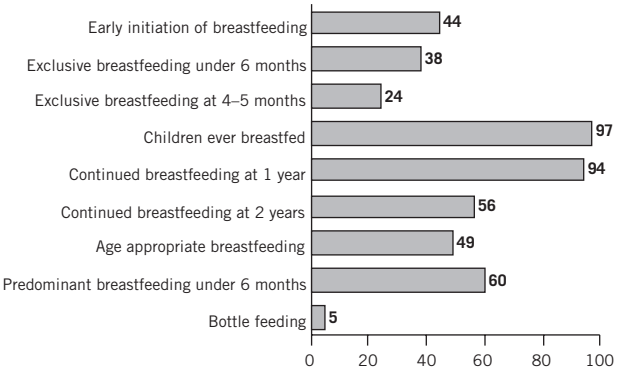
Additional indicators

Infant mortality (rate per thousand live births)	65
Under-5 mortality (rate per thousand live births)	100
% of children under five years of age who are suffering from:	
Underweight	16
Stunting	53
Overweight	11

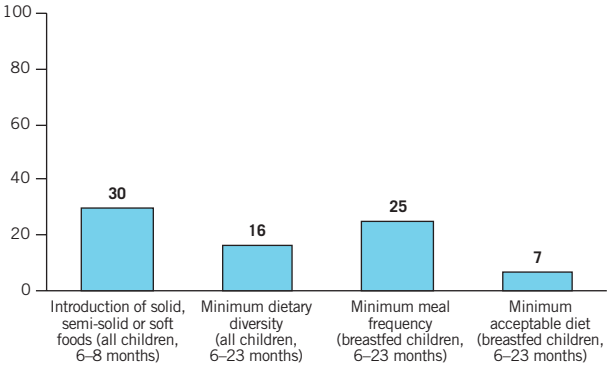
Source: DHS (2004), WHS (2010).

MALI

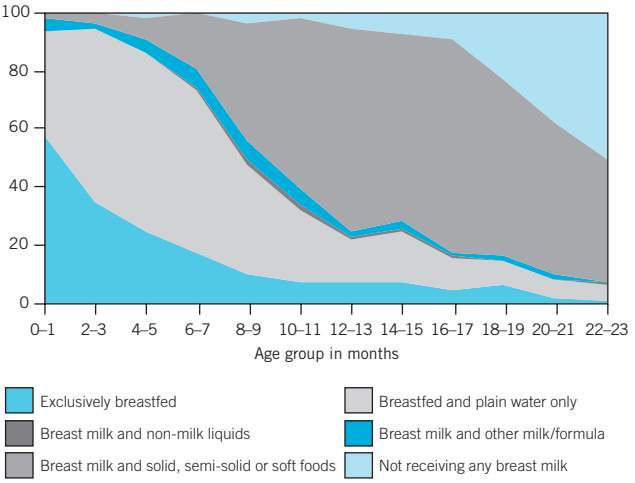
Breastfeeding indicators (%)



Complementary feeding indicators (%)



Infant and young child feeding practices by age (%)



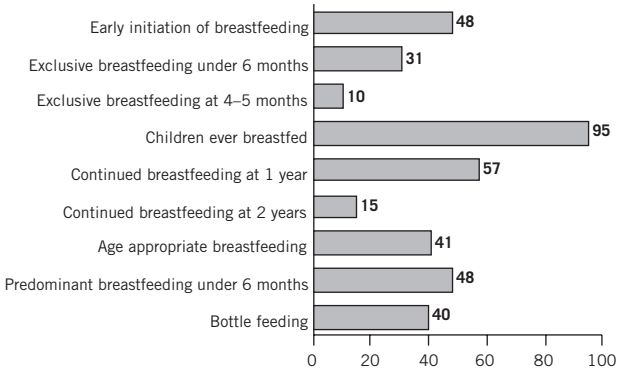
Additional indicators

Infant mortality (rate per thousand live births)	102
Under-5 mortality (rate per thousand live births)	194
% of children under five years of age who are suffering from:	
Underweight	28
Stunting	39
Overweight	5

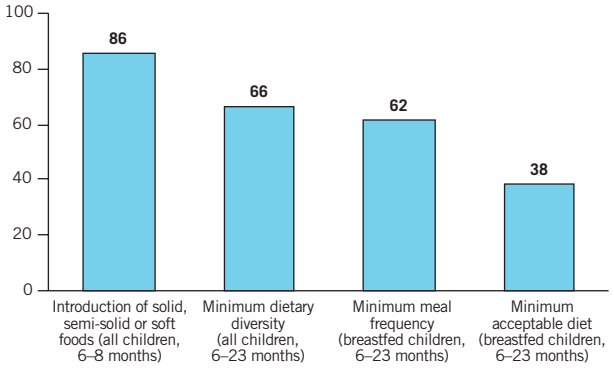
Source: DHS (2006), WHS (2010).

MOROCCO

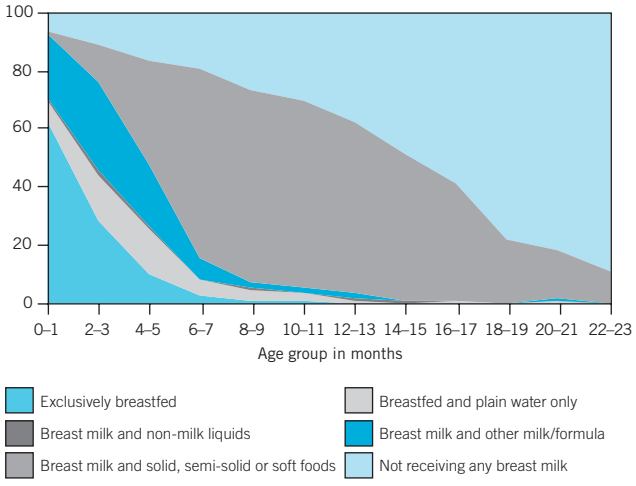
Breastfeeding indicators (%)



Complementary feeding indicators (%)



Infant and young child feeding practices by age (%)



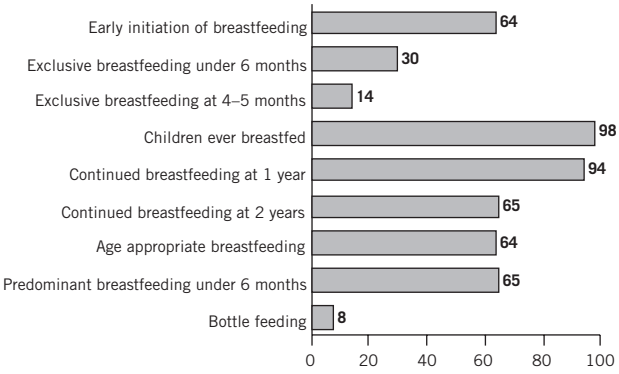
Additional indicators

Infant mortality (rate per thousand live births)	32
Under-5 mortality (rate per thousand live births)	36
% of children under five years of age who are suffering from:	
Underweight	10
Stunting	23
Overweight	13

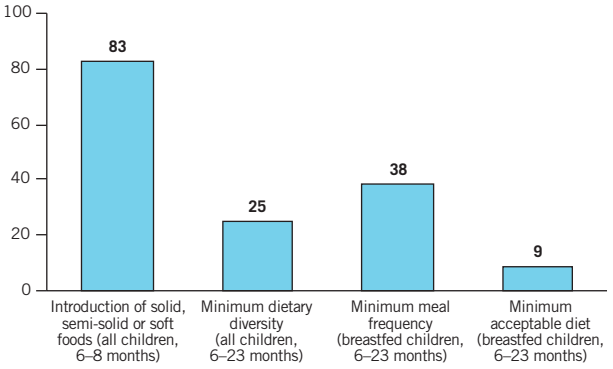
Source: DHS (2003–04), WHS (2010).

MOZAMBIQUE

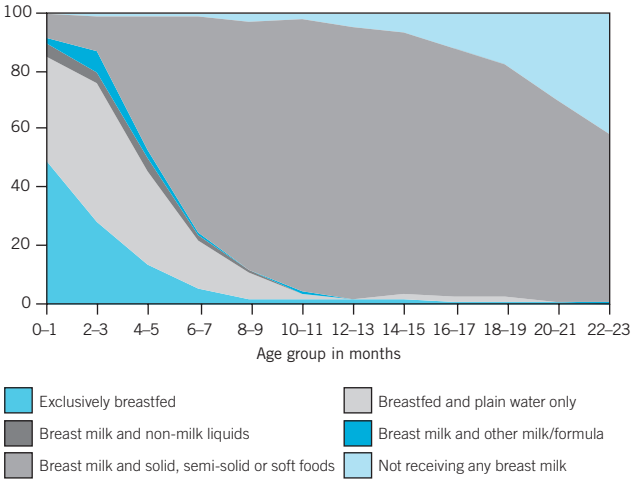
Breastfeeding indicators (%)



Complementary feeding indicators (%)



Infant and young child feeding practices by age (%)



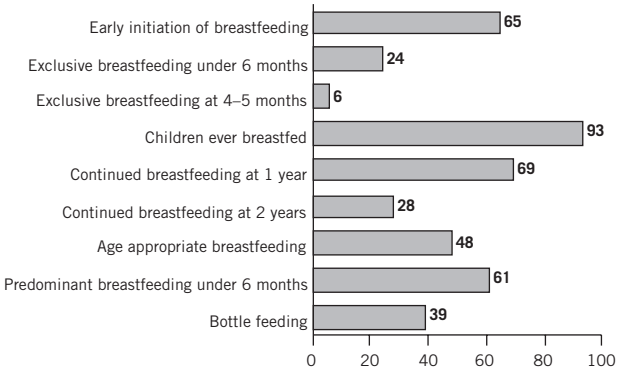
Additional indicators

Infant mortality (rate per thousand live births)	90
Under-5 mortality (rate per thousand live births)	130
% of children under five years of age who are suffering from:	
Underweight	21
Stunting	47
Overweight	6

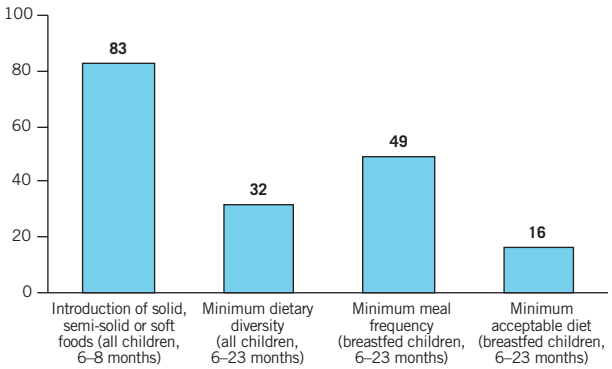
Source: DHS (2003), WHS (2010).

NAMIBIA

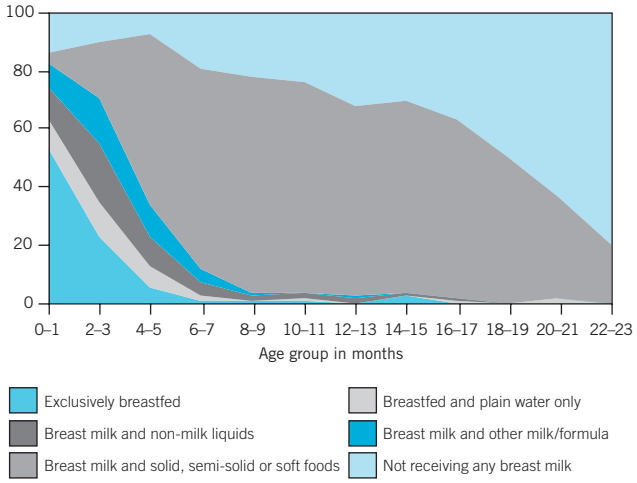
Breastfeeding indicators (%)



Complementary feeding indicators (%)



Infant and young child feeding practices by age (%)



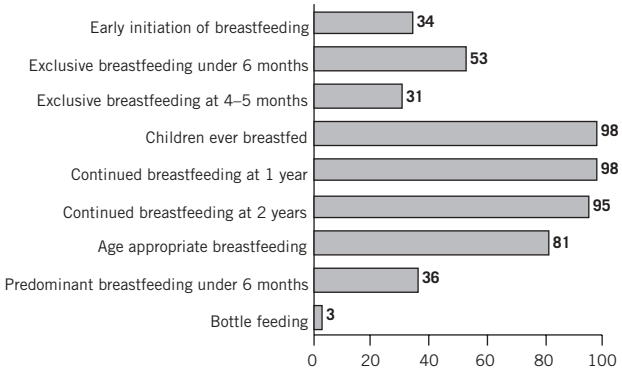
Additional indicators

Infant mortality (rate per thousand live births)	31
Under-5 mortality (rate per thousand live births)	42
% of children under five years of age who are suffering from:	
Underweight	18
Stunting	30
Overweight	5

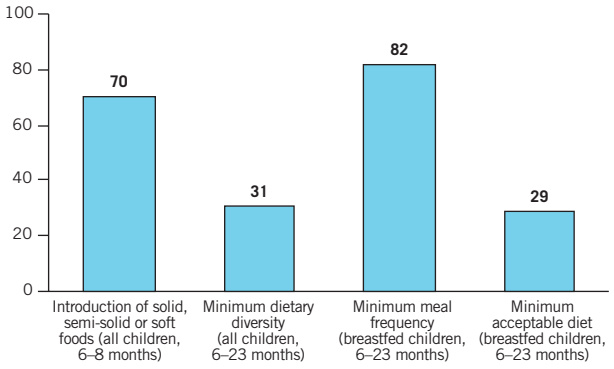
Source: DHS (2006–07), WHS (2010).

NEPAL

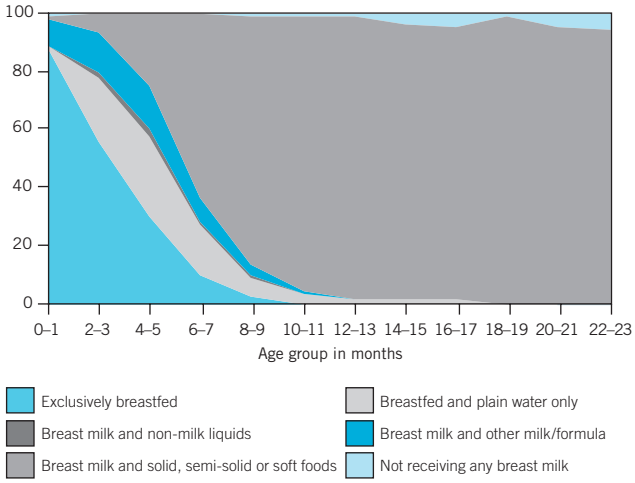
Breastfeeding indicators (%)



Complementary feeding indicators (%)



Infant and young child feeding practices by age (%)



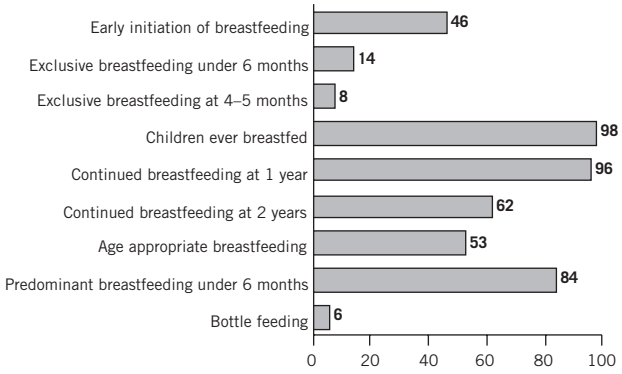
Additional indicators

Infant mortality (rate per thousand live births)	41
Under-5 mortality (rate per thousand live births)	51
% of children under five years of age who are suffering from:	
Underweight	39
Stunting	49
Overweight	1

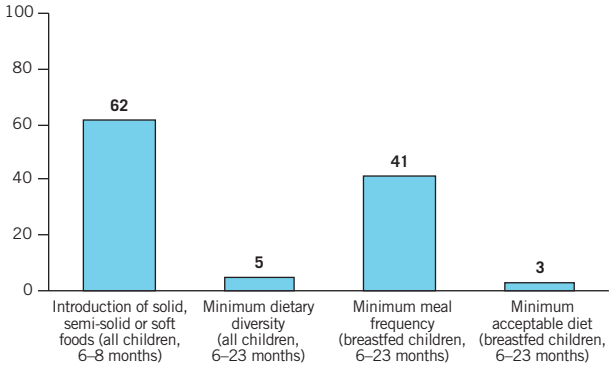
Source: DHS (2006), WHS (2010).

NIGER

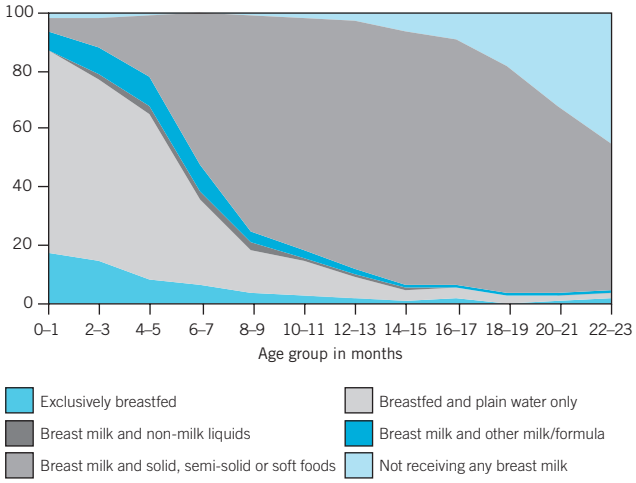
Breastfeeding indicators (%)



Complementary feeding indicators (%)



Infant and young child feeding practices by age (%)



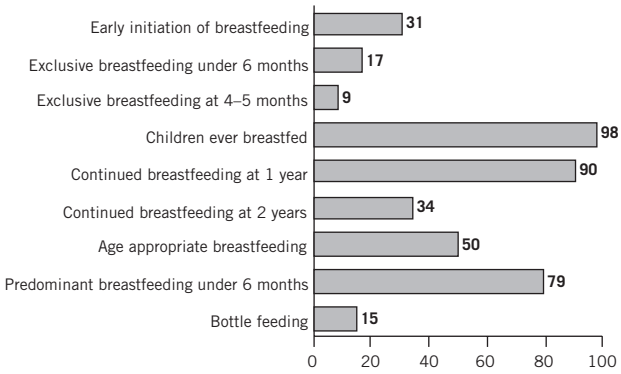
Additional indicators

Infant mortality (rate per thousand live births)	79
Under-5 mortality (rate per thousand live births)	167
% of children under five years of age who are suffering from:	
Underweight	40
Stunting	55
Overweight	4

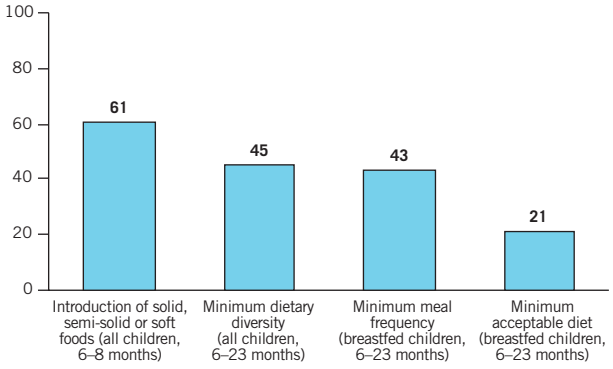
Source: DHS (2006), WHS (2010).

NIGERIA

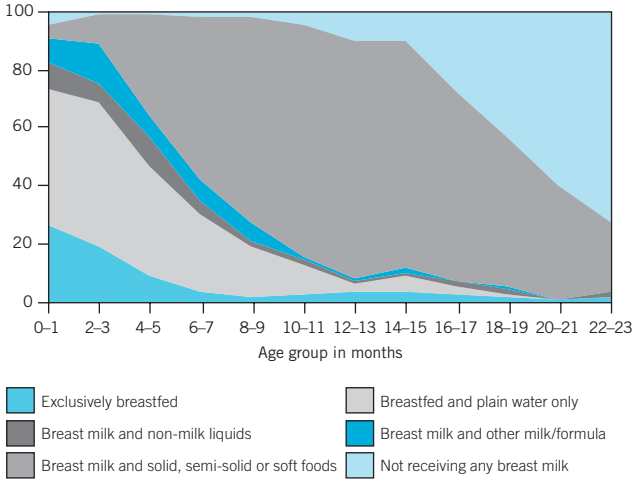
Breastfeeding indicators (%)



Complementary feeding indicators (%)



Infant and young child feeding practices by age (%)



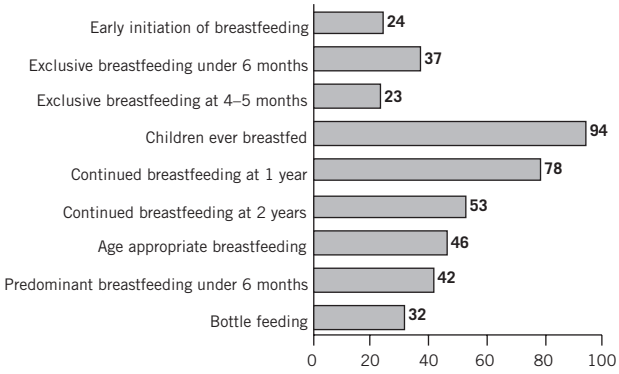
Additional indicators

Infant mortality (rate per thousand live births)	96
Under-5 mortality (rate per thousand live births)	186
% of children under five years of age who are suffering from:	
Underweight	27
Stunting	41
Overweight	11

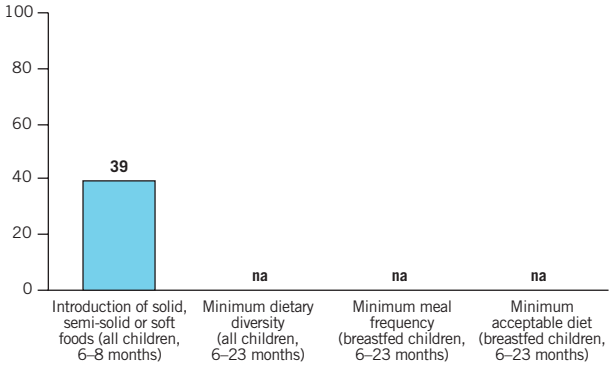
Source: DHS (2003), WHS (2010).

PAKISTAN

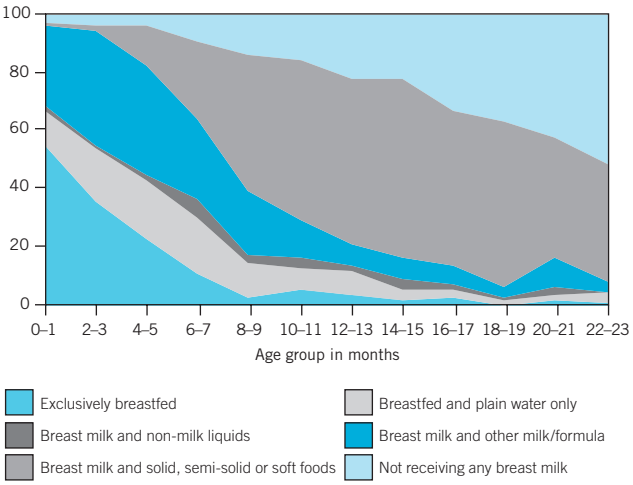
Breastfeeding indicators (%)



Complementary feeding indicators (%)



Infant and young child feeding practices by age (%)



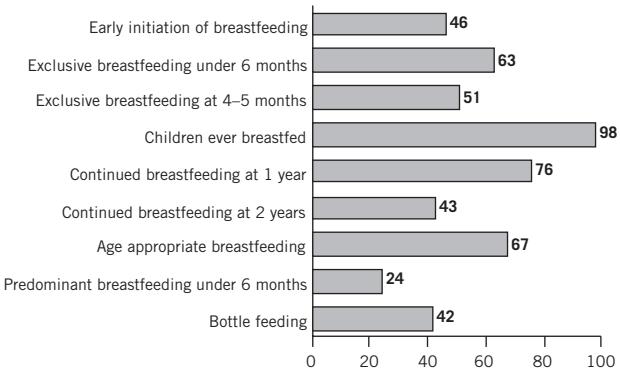
Additional indicators

Infant mortality (rate per thousand live births)	72
Under-5 mortality (rate per thousand live births)	89
% of children under five years of age who are suffering from:	
Underweight	31
Stunting	42
Overweight	5

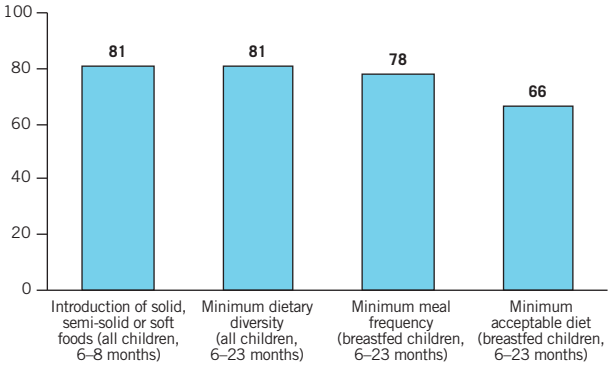
Source: DHS (2006–07), WHS (2010).

PERU

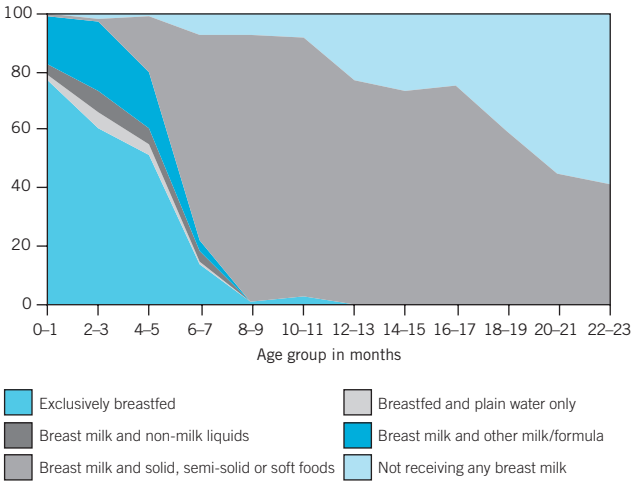
Breastfeeding indicators (%)



Complementary feeding indicators (%)



Infant and young child feeding practices by age (%)



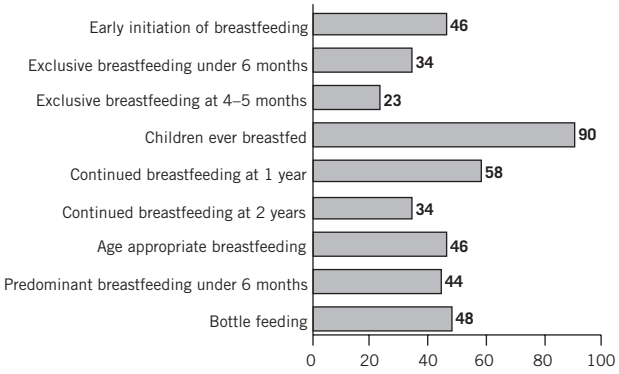
Additional indicators

Infant mortality (rate per thousand live births)	22
Under-5 mortality (rate per thousand live births)	24
% of children under five years of age who are suffering from:	
Underweight	5
Stunting	30
Overweight	9

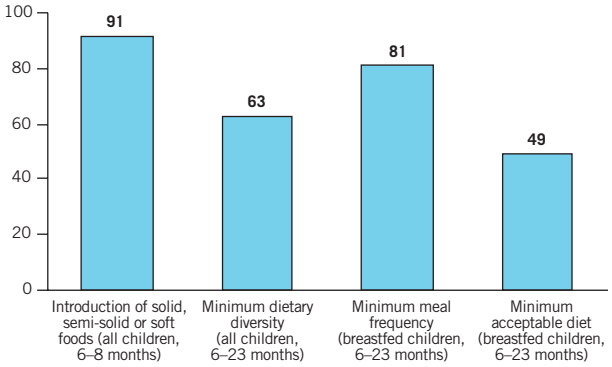
Source: DHS (2004–06), WHS (2010).

PHILIPPINES

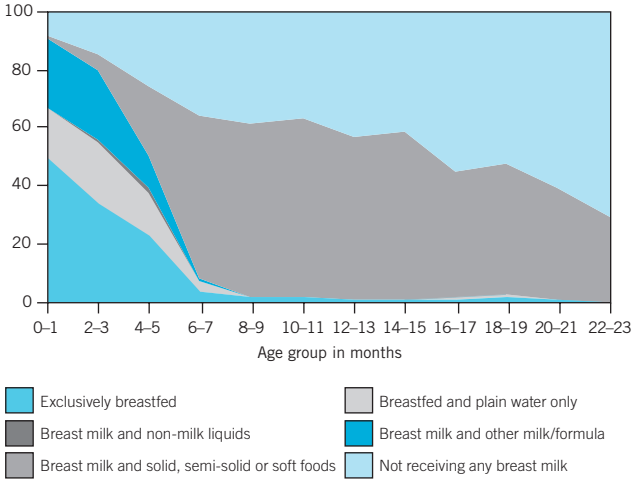
Breastfeeding indicators (%)



Complementary feeding indicators (%)



Infant and young child feeding practices by age (%)



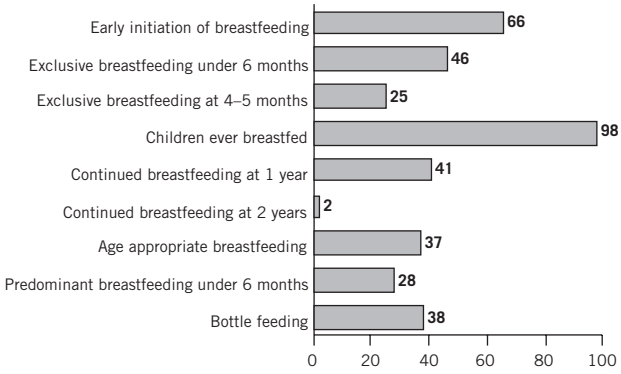
Additional indicators

Infant mortality (rate per thousand live births)	26
Under-5 mortality (rate per thousand live births)	32
% of children under five years of age who are suffering from:	
Underweight	21
Stunting	34
Overweight	2

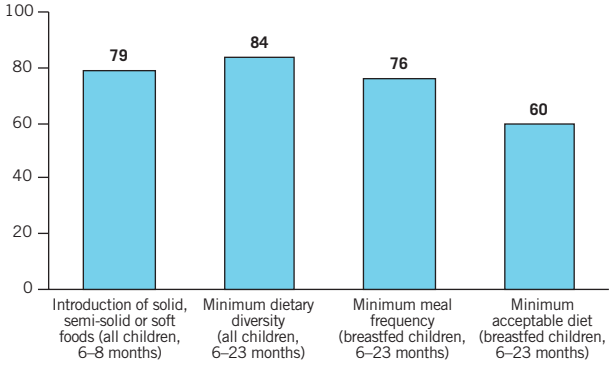
Source: DHS (2008), WHS (2010).

REPUBLIC OF MOLDOVA

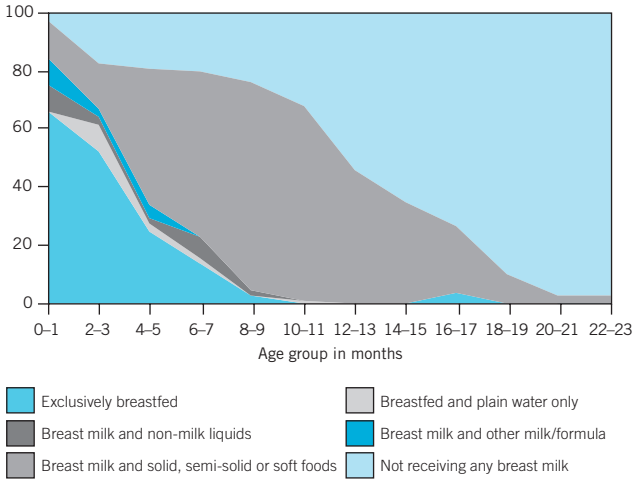
Breastfeeding indicators (%)



Complementary feeding indicators (%)



Infant and young child feeding practices by age (%)



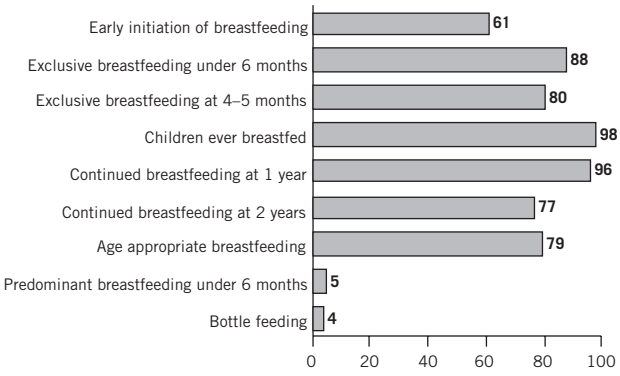
Additional indicators

Infant mortality (rate per thousand live births)	15
Under-5 mortality (rate per thousand live births)	17
% of children under five years of age who are suffering from:	
Underweight	3
Stunting	11
Overweight	9

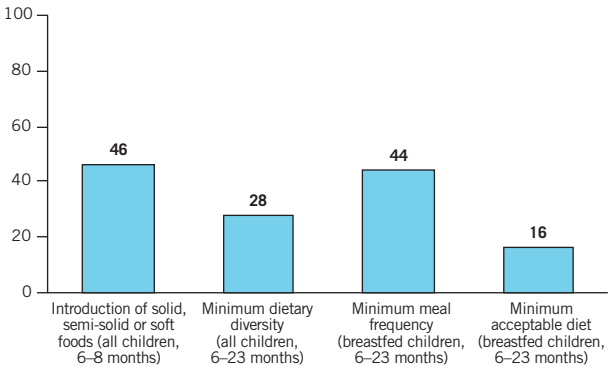
Source: DHS (2005), WHS (2010).

RWANDA

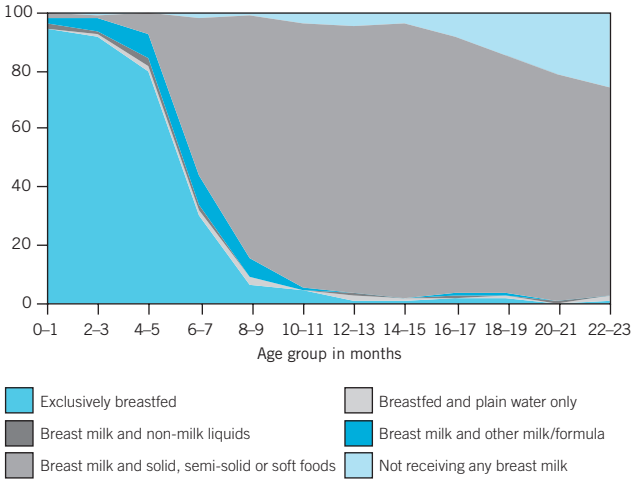
Breastfeeding indicators (%)



Complementary feeding indicators (%)



Infant and young child feeding practices by age (%)



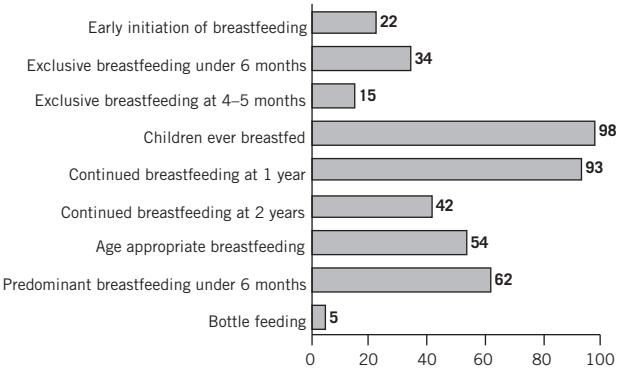
Additional indicators

Infant mortality (rate per thousand live births)	72
Under-5 mortality (rate per thousand live births)	112
% of children under five years of age who are suffering from:	
Underweight	18
Stunting	52
Overweight	7

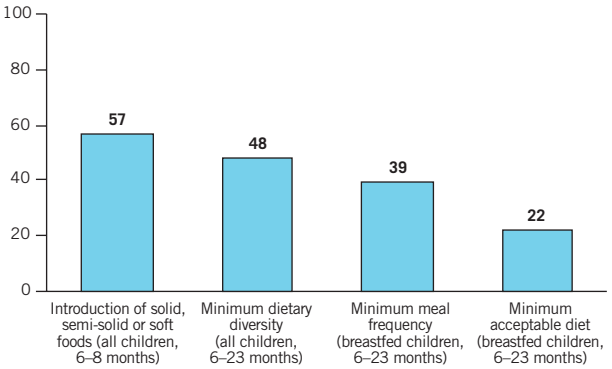
Source: DHS (2005), WHS (2010).

SENEGAL

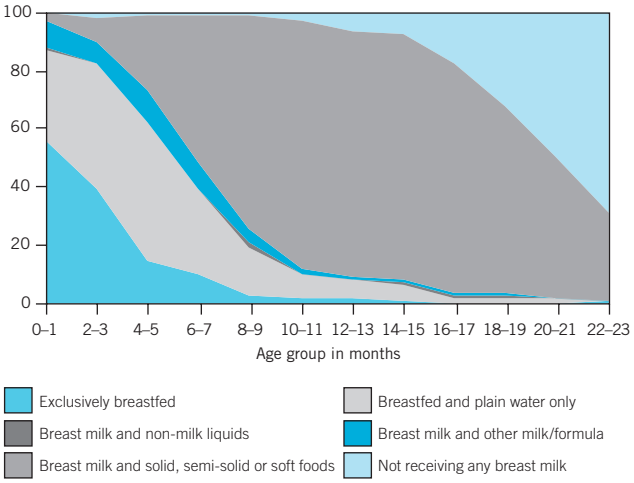
Breastfeeding indicators (%)



Complementary feeding indicators (%)



Infant and young child feeding practices by age (%)



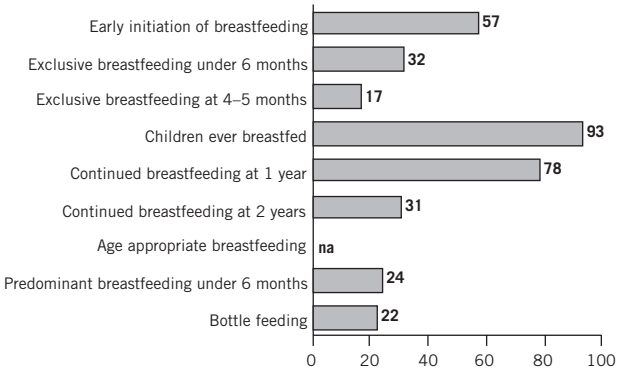
Additional indicators

Infant mortality (rate per thousand live births)	57
Under-5 mortality (rate per thousand live births)	108
% of children under five years of age who are suffering from:	
Underweight	15
Stunting	20
Overweight	2

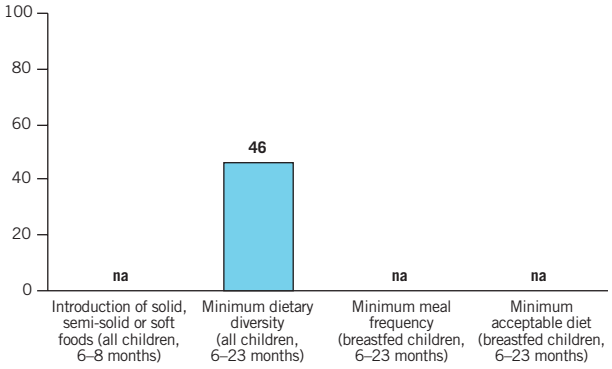
Source: DHS (2005), WHS (2010).

SWAZILAND

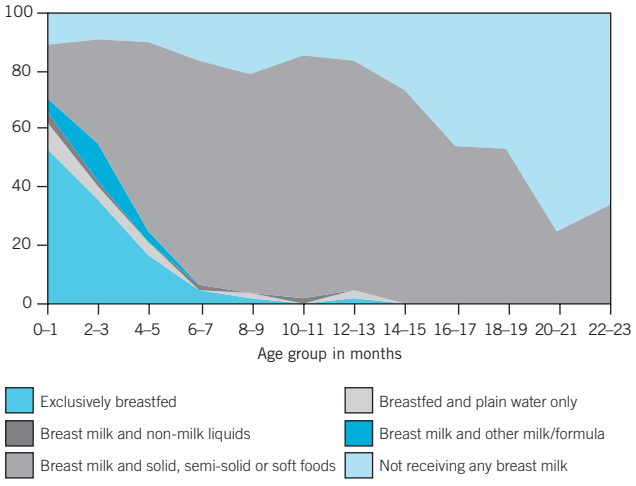
Breastfeeding indicators (%)



Complementary feeding indicators (%)



Infant and young child feeding practices by age (%)



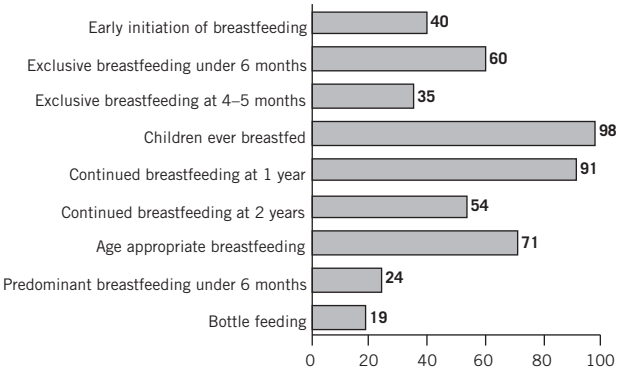
Additional indicators

Infant mortality (rate per thousand live births)	59
Under-5 mortality (rate per thousand live births)	83
% of children under five years of age who are suffering from:	
Underweight	6
Stunting	30
Overweight	11

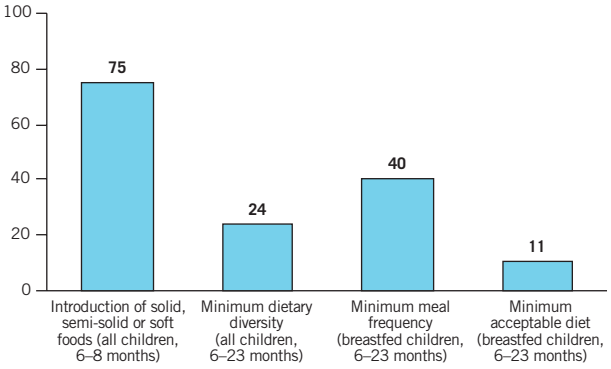
Source: DHS (2006–07), WHS (2010).

UGANDA

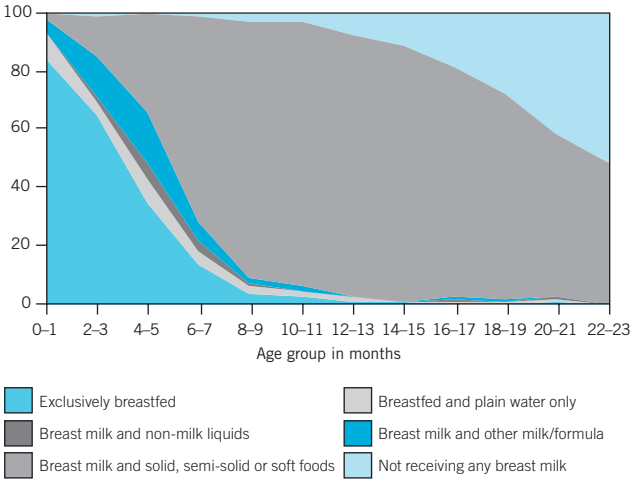
Breastfeeding indicators (%)



Complementary feeding indicators (%)



Infant and young child feeding practices by age (%)



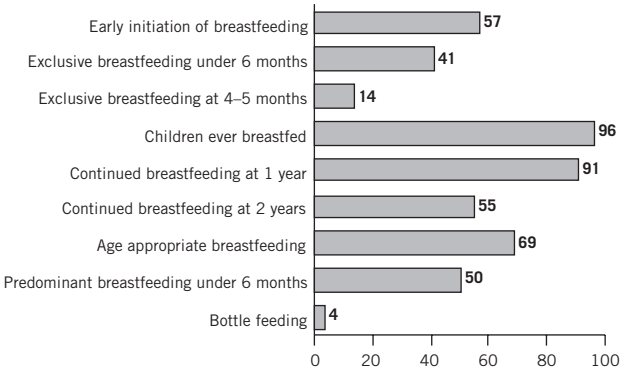
Additional indicators

Infant mortality (rate per thousand live births)	84
Under-5 mortality (rate per thousand live births)	135
% of children under five years of age who are suffering from:	
Underweight	16
Stunting	39
Overweight	5

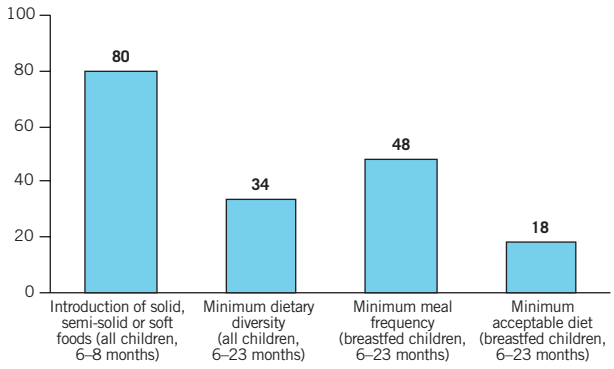
Source: DHS (2006), WHS (2010).

UNITED REPUBLIC OF TANZANIA

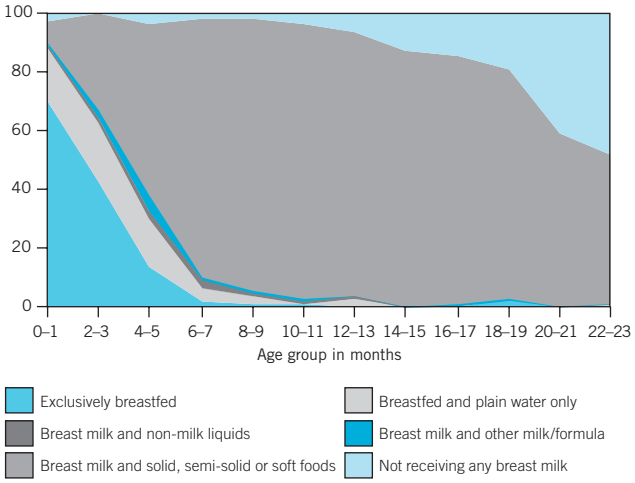
Breastfeeding indicators (%)



Complementary feeding indicators (%)



Infant and young child feeding practices by age (%)



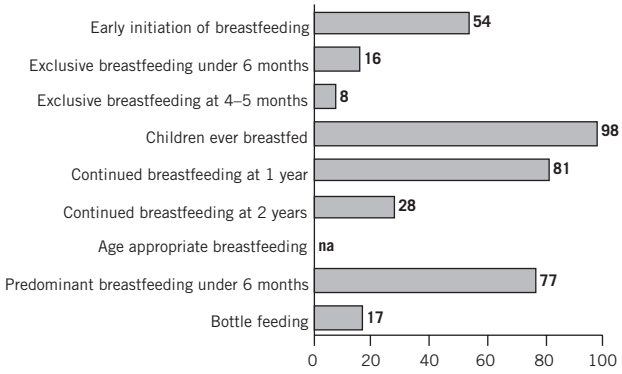
Additional indicators

Infant mortality (rate per thousand live births)	67
Under-5 mortality (rate per thousand live births)	103
% of children under five years of age who are suffering from:	
Underweight	17
Stunting	44
Overweight	5

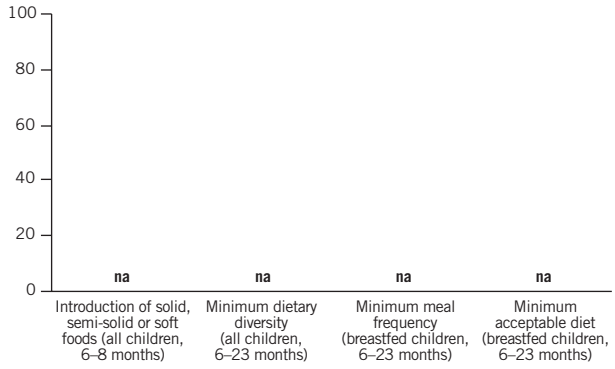
Source: DHS (2004–05), WHS (2010).

VIET NAM

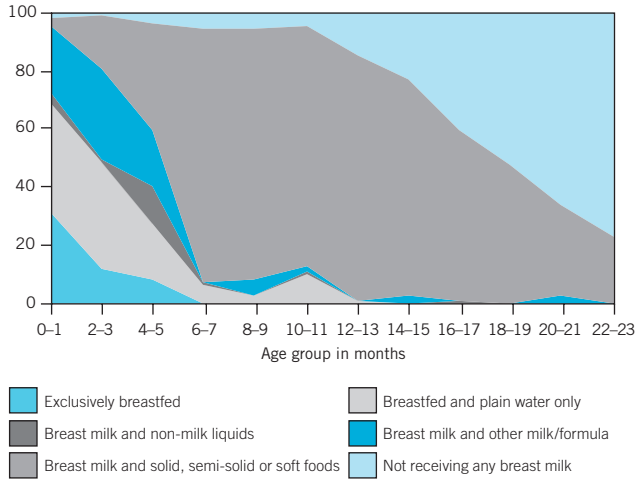
Breastfeeding indicators (%)



Complementary feeding indicators (%)



Infant and young child feeding practices by age (%)



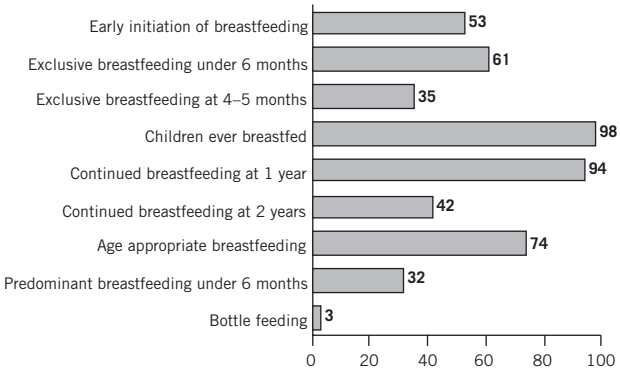
Additional indicators

Infant mortality (rate per thousand live births)	12
Under-5 mortality (rate per thousand live births)	14
% of children under five years of age who are suffering from:	
Underweight	20
Stunting	31
Overweight	3

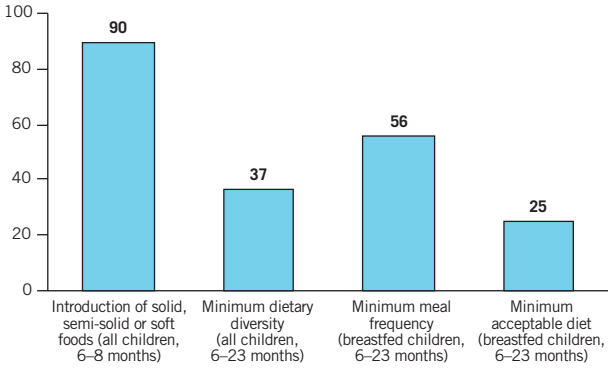
Source: DHS (2002), WHS (2010).

ZAMBIA

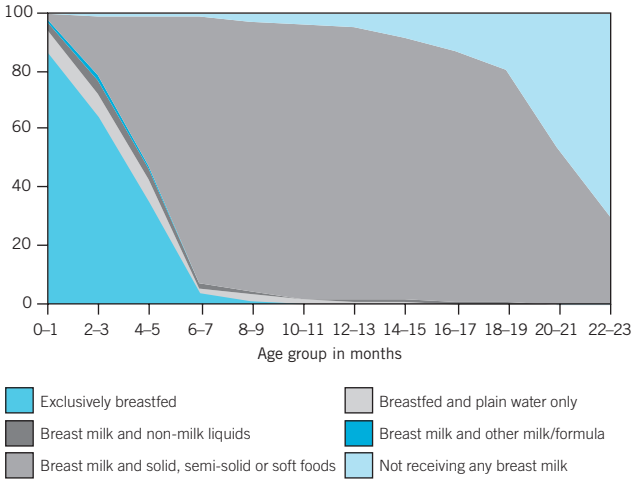
Breastfeeding indicators (%)



Complementary feeding indicators (%)



Infant and young child feeding practices by age (%)



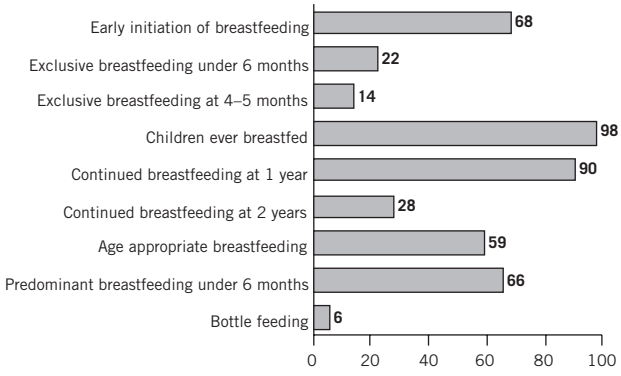
Additional indicators

Infant mortality (rate per thousand live births)	92
Under-5 mortality (rate per thousand live births)	148
% of children under five years of age who are suffering from:	
Underweight	15
Stunting	46
Overweight	8

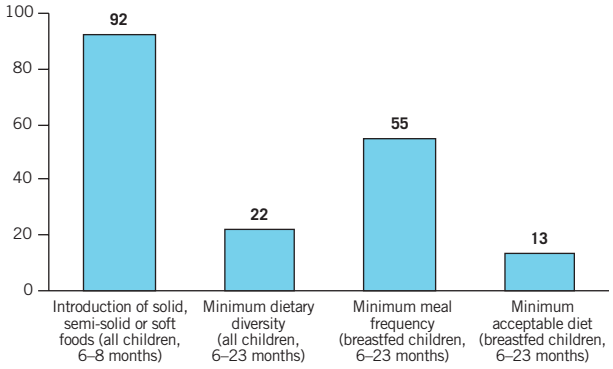
Source: DHS (2007), WHS (2010).

ZIMBABWE

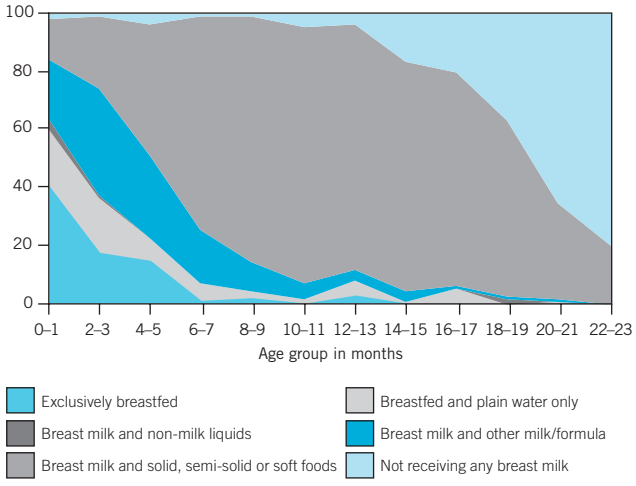
Breastfeeding indicators (%)



Complementary feeding indicators (%)



Infant and young child feeding practices by age (%)



Additional indicators

Infant mortality (rate per thousand live births)	62
Under-5 mortality (rate per thousand live births)	96
% of children under five years of age who are suffering from:	
Underweight	14
Stunting	36
Overweight	9

Source: DHS (2005–06), WHS (2010).

Values by indicator and country

Infant and young child feeding status by country

Country and survey year	Early initiation of breastfeeding		Exclusive breastfeeding under 6 months		Exclusive breastfeeding at 4–5 months		Continued breastfeeding at 1 year		Continued breastfeeding at 2 years	
	Per cent	Number[a]	Per cent	Number[a]	Per cent	Number[a]	Per cent	Number[a]	Per cent	Number[a]
Azerbaijan 2006	28.5	983	11.8	241	2.4	75	33.2	153	16.2	105
Bangladesh 2007	42.1	2 347	42.9	483	23.1	207	94.5	321	91.0	369
Benin 2006	53.7	6 661	43.1	1 519	21.9	524	96.0	1 065	57.3	803
Bolivia 2003	58.0	3 854	53.6	909	39.5	347	81.5	658	45.8	537
Burkina Faso 2003	32.3	4 303	18.8	1 115	16.1	395	98.1	692	81.0	468
Cambodia 2005	34.4	3 185	60.0	739	45.6	256	89.9	499	54.2	493
Cameroon 2004	29.4	3 321	23.5	788	10.7	289	83.1	517	28.5	417
Chad 2004	32.0	2 336	2.0	633	2.4	189	91.5	429	65.8	198
Colombia 2005	57.4	5 512	47.0	1 311	26.1	491	57.3	877	32.2	786
Congo (Brazzaville) 2005	34.1	2 099	19.1	545	9.6	187	81.6	308	21.3	271
DR Congo 2007	48.2	3 670	36.1	927	17.1	313	90.8	630	63.5	388
Dominican Republic 2007	58.0	4 064	7.8	859	2.1	351	33.6	499	12.0	692
Egypt 2008	51.3	4 659	53.2	1 090	28.8	387	83.3	691	25.2	653
Eritrea 2002	76.3	2 360	52.0	651	25.8	217	91.9	351	61.7	270
Ethiopia 2005	64.0	4 469	49.0	1 142	31.6	355	92.6	774	85.8	431
Ghana 2008	49.8	1 228	62.8	308	49.4	109	94.5	191	43.9	138
Guinea 2005	37.8	2 731	27.0	751	16.7	258	96.4	489	70.6	288
Haiti 2005-06	41.3	2 408	40.7	569	24.2	193	82.9	392	34.9	283
Honduras 2005-06	73.1	3 986	29.7	893	16.1	334	72.4	671	47.5	516
India 2005-06	22.2	21 948	46.4	5 081	27.6	1 966	89.2	3 343	72.7	2 897
Indonesia 2007	39.9	6 691	32.4	1 664	17.8	595	79.9	1 090	50.3	915
Jordan 2007	34.6	3 940	21.8	1 046	10.2	372	46.0	586	10.9	514
Kenya 2003	49.0	2 562	12.7	607	2.6	204	92.1	394	57.3	307
Lesotho 2004	56.7	1 527	36.4	382	15.2	127	90.2	260	59.5	165
Liberia 2007	63.5	2 210	29.1	486	18.8	180	86.7	289	47.5	310
Madagascar 2003–04	60.5	2 670	67.2	611	48.8	214	90.9	413	64.1	316
Malawi 2004	67.7	4 776	52.8	1 092	26.9	361	97.7	783	80.3	615
Mali 2006	44.1	5 903	37.8	1 458	24.3	524	94.1	1 042	56.1	644
Morocco 2003–04	47.6	2 338	31.0	540	9.9	199	56.5	373	14.7	316
Mozambique 2003	63.6	4 386	30.0	1 065	13.7	358	94.4	682	64.7	549
Namibia 2006–07	65.2	2 121	23.9	475	5.7	184	68.5	331	28.4	249
Nepal 2006	34.2	2 064	53.0	478	30.6	204	97.5	300	95.0	302
Niger 2006	46.1	4 079	13.5	1 032	8.4	335	95.6	750	62.3	442
Nigeria 2003	30.5	2 563	17.2	659	8.7	247	89.9	387	34.1	248
Pakistan 2006–07	24.1	3 621	37.1	955	23.1	318	78.3	595	53.2	302
Peru 2004–06 Continuous	45.6	1 764	62.8	401	51.0	126	75.8	301	43.4	303
Philippines 2008	45.7	2 559	34.0	569	22.6	197	57.7	427	34.2	377
Republic of Moldova 2005	66.1	678	45.5	157	24.6	56	40.8	132	2.4	94
Rwanda 2005	60.8	3 617	88.4	885	79.7	303	96.4	589	77.1	446
Senegal 2005	22.2	4 586	34.1	1 279	14.8	494	93.2	660	41.8	504
Swaziland 2006–07	57.0	1 191	32.3	260	16.7	107	78.4	194	30.7	144
Uganda 2006	39.6	3 424	60.1	789	34.8	269	91.1	546	54.4	460
UR Tanzania 2004–05	57.0	3 639	41.3	837	13.5	277	91.0	545	55.4	482
Viet Nam 2002	53.8	850	15.5	194	7.8	65	81.4	164	27.9	123
Zambia 2007	53.4	2 742	60.9	632	35.0	226	93.8	422	41.7	395
Zimbabwe 2005–06	68.1	2 198	22.2	513	14.3	190	89.9	387	28.4	290

[a] Refers to the number of children in the sample from which the indicator was calculated.
na: information not available.

Infant and young child feeding status by country

Country and survey year	Introduction of solid semi solid or soft foods		Minimum dietary diversity (All children)		Minimum meal frequency (Breastfed children)		Minimum acceptable diet (Breastfed children)	
	Per cent	Number[a]	Per cent	Number[a]	Per cent	Number[a]	Per cent	Number[a]
Azerbaijan 2006	62.8	129	50.8	631	44.0	219	22.3	219
Bangladesh 2007	71.1	339	12.1	1 729	81.3	1 656	11.3	1 656
Benin 2006	60.6	891	27.5	4 556	49.6	3 976	14.5	3 976
Bolivia 2003	75.4	447	73.6	2 657	51.5	1 987	40.0	1 987
Burkina Faso 2003	36.1	532	14.2	2 813	30.6	2 672	6.0	2 672
Cambodia 2005	81.4	393	29.0	2 220	71.6	1 804	21.7	1 804
Cameroon 2004	68.1	386	50.5	2 150	41.4	1 529	22.9	1 529
Chad 2004	na	287	33.5	1 432	na	1 278	na	1 278
Colombia 2005	na	669	69.0	3 840	na	2 116	na	2 116
Congo (Brazzaville) 2005	na	270	47.7	1 336	na	908	na	908
DR Congo 2007	80.9	421	12.2	2 272	30.4	1 954	3.6	1 954
Dominican Republic 2007	81.1	525	73.2	2 812	57.0	864	43.4	864
Egypt 2008	69.3	703	55.0	3 275	57.9	2 301	37.8	2 301
Eritrea 2002	39.9	323	19.3	1 531	44.2	1 339	12.0	1 339
Ethiopia 2005	46.0	598	3.9	2 865	42.3	2 676	2.9	2 676
Ghana 2008	72.5	147	46.8	826	50.4	691	26.7	691
Guinea 2005	47.1	324	17.5	1 663	30.3	1 518	4.7	1 518
Haiti 2005-06	87.4	288	28.4	1 592	46.3	1 169	16.0	1 169
Honduras 2005-06	84.0	547	64.9	2 853	77.0	1 964	51.9	1 964
India 2005-06	54.5	2 918	11.7	15 066	43.7	13 069	7.1	13 069
Indonesia 2007	87.3	904	64.9	4 612	67.0	3 434	42.2	3 434
Jordan 2007	84.8	493	75.1	2 584	62.4	1 142	46.3	1 142
Kenya 2003	80.6	295	45.2	1 660	58.4	1 392	29.9	1 392
Lesotho 2004	75.4	153	31.4	962	64.3	796	21.0	796
Liberia 2007	55.5	289	22.1	1 465	50.7	1 153	13.0	1 153
Madagascar 2003–04	77.6	341	31.4	1 794	75.8	1 554	25.1	1 554
Malawi 2004	82.9	603	40.2	3 286	49.3	3 075	21.6	3 075
Mali 2006	29.5	679	16.3	3 811	25.1	3 323	6.7	3 323
Morocco 2003–04	86.3	305	65.8	1 631	62.4	796	38.0	796
Mozambique 2003	82.5	566	24.5	2 881	37.8	2 540	9.3	2 540
Namibia 2006–07	82.9	266	31.5	1 340	48.5	841	15.7	841
Nepal 2006	69.7	254	31.3	1 428	82.4	1 393	29.2	1 393
Niger 2006	61.6	533	5.4	2 656	40.7	2 376	3.1	2 376
Nigeria 2003	60.5	352	45.0	1 594	42.9	1 272	20.6	1 272
Pakistan 2006–07	39.2	443	na	2 166	na	1 636	na	1 636
Peru 2004–06 Continuous	81.4	214	81.4	1 277	78.2	916	65.7	916
Philippines 2008	90.7	306	63.2	1 775	81.4	930	49.1	930
Republic of Moldova 2005	78.5	64	83.9	493	76.3	192	60.3	192
Rwanda 2005	46.1	409	27.8	2 356	44.3	2 162	15.9	2 162
Senegal 2005	57.4	619	47.6	2 909	38.7	2 372	21.9	2 372
Swaziland 2006–07	na	157	46.2	767	na	512	na	512
Uganda 2006	74.7	396	23.6	2 249	40.1	1 864	10.6	1 864
UR Tanzania 2004–05	79.6	459	34.3	2 487	48.4	2 108	18.1	2 108
Viet Nam 2002	na	94	na	632	na	431	na	431
Zambia 2007	90.3	315	36.9	1 840	55.5	1 508	24.9	1 508
Zimbabwe 2005–06	91.5	279	21.6	1 483	55.2	1 142	12.7	1 142

[a] Refers to the number of children in the sample from which the indicator was calculated.
na: information not available.

Infant and young child feeding status by country

Country and survey year	Children ever breastfed		Predominant breast-feeding under 6 months		Age appropriate breastfeeding		Bottle feeding		Duration of breastfeeding	
	Per cent	Number[a]	Per cent	Number[a]	Per cent	Number[a]	Per cent	Number[a]	Months	Number[a]
Azerbaijan 2006	86.5	983	69.3	241	22.1	872	58.7	872	7.8	1 444
Bangladesh 2007	98.7	2 347	50.0	483	77.6	2 212	na	2 212	33.2	3 589
Benin 2006	97.7	6 661	50.3	1 519	64.3	6 075	7.3	6 075	21.4	9 686
Bolivia 2003	97.5	3 854	31.5	909	65.1	3 567	38.1	3 567	19.6	5 908
Burkina Faso 2003	98.9	4 303	78.7	1 115	54.8	3 928	1.2	3 928	24.5	6 294
Cambodia 2005	97.2	3 185	33.1	739	72.6	2 960	11.4	2 960	21.0	4 715
Cameroon 2004	96.4	3 321	70.4	788	48.7	2 938	8.2	2 938	17.4	4 890
Chad 2004	98.6	2 335	95.8	633	na	2 064	2.6	2 064	21.3	3 537
Colombia 2005	97.2	5 512	34.6	1 311	na	5 151	56.1	5 151	14.9	8 214
Congo (Brazzaville) 2005	95.9	2 099	73.4	545	na	1 881	5.8	1 881	17.1	3 119
DR Congo 2007	97.5	3 670	58.0	927	61.1	3 199	8.3	3 199	21.0	5 523
Dominican Republic 2007	91.9	4 064	59.1	859	22.6	3 671	83.7	3 671	7.1	6 117
Egypt 2008	96.0	4 659	40.1	1 090	58.8	4 365	11.6	4 365	18.0	6 716
Eritrea 2002	98.4	2 360	46.3	651	57.5	2 183	6.3	2 183	21.8	3 477
Ethiopia 2005	96.8	4 469	38.4	1 142	60.8	4 007	12.7	4 007	25.8	6 548
Ghana 2008	98.6	1 228	33.5	308	70.8	1 134	11.8	1 134	20.2	1 760
Guinea 2005	97.7	2 731	69.6	751	53.5	2 413	3.2	2 413	22.4	3 962
Haiti 2005-06	97.4	2 408	53.9	565	61.6	2 157	19.6	2 157	18.8	3 456
Honduras 2005-06	95.8	3 986	42.9	893	56.2	3 747	47.6	3 747	19.2	6 007
India 2005-06	96.8	21 948	44.1	5 081	64.9	20 147	13.8	20 147	24.4	33 114
Indonesia 2007	95.4	6 691	40.3	1 664	59.6	6 276	30.4	6 276	20.7	9 960
Jordan 2007	94.3	3 940	58.2	1 046	35.6	3 630	44.1	3 630	12.5	5 908
Kenya 2003	96.9	2 562	73.3	607	57.9	2 267	22.1	2 267	20.1	3 702
Lesotho 2004	95.3	1 527	46.4	382	61.8	1 345	21.7	1 345	21.4	2 222
Liberia 2007	96.9	2 210	67.4	486	54.5	1 950	8.3	1 950	19.6	3 348
Madagascar 2003–04	98.7	2 670	30.1	611	76.5	2 405	2.4	2 405	21.6	3 762
Malawi 2004	98.6	4 776	41.8	1 092	78.8	4 379	4.8	4 379	23.2	6 715
Mali 2006	97.1	5 903	60.1	1 458	48.6	5 269	5.1	5 269	20.9	8 693
Morocco 2003–04	95.2	2 338	47.9	540	41.3	2 171	39.7	2 171	14.2	3 508
Mozambique 2003	98.4	4 386	64.9	1 065	64.0	3 946	7.9	3 946	22.1	6 323
Namibia 2006–07	93.3	2 121	61.1	475	47.5	1 815	39.4	1 815	16.8	3 133
Nepal 2006	98.4	2 064	36.4	478	81.1	1 906	3.4	1 906	34.3	3 261
Niger 2006	98.4	4 079	83.7	1 032	52.9	3 688	5.9	3 688	21.4	6 066
Nigeria 2003	98.0	2 563	79.2	659	49.6	2 252	14.5	2 252	18.6	3 815
Pakistan 2006–07	93.8	3 621	42.4	955	46.0	3 121	32.4	3 121	18.9	5 450
Peru 2004–06 Continuous	97.7	1 764	23.5	401	66.8	1 678	41.6	1 678	19.5	2 567
Philippines 2008	89.9	2 559	44.2	569	45.9	2 344	47.8	2 344	14.3	3 823
Republic of Moldova 2005	97.5	678	28.0	157	36.6	650	37.9	650	12.1	1 011
Rwanda 2005	97.9	3 617	4.8	885	79.2	3 240	3.8	3 240	25.2	5 535
Senegal 2005	97.9	4 586	62.4	1 279	54.4	4 187	4.8	4 187	20.1	6 640
Swaziland 2006–07	92.7	1 191	23.5	260	na	1 028	22.2	1 028	16.7	1 751
Uganda 2006	98.4	3 424	23.5	789	70.8	3 038	18.6	3 038	20.5	5 099
UR Tanzania 2004–05	96.2	3 639	49.8	837	69.1	3 324	3.7	3 324	21.1	5 393
Viet Nam 2002	98.1	850	76.9	194	na	826	17.2	826	18.0	1 321
Zambia 2007	97.9	2 742	32.4	632	74.4	2 473	3.1	2 473	20.3	4 019
Zimbabwe 2005–06	98.2	2 198	65.6	513	58.8	1 996	6.2	1 996	18.8	3 220

[a] Refers to the number of children in the sample from which the indicator was calculated.
na: information not available.

ANNEX

Summary of indicator definitions

CORE INDICATORS

Breastfeeding initiation

1. **Early initiation of breastfeeding:** Proportion of children born in the last 24 months who were put to the breast within one hour of birth.

$$\frac{\text{Children born in the last 24 months who were put to the breast within one hour of birth}}{\text{Children born in the last 24 months}}$$

Exclusive breastfeeding

2. **Exclusive breastfeeding under 6 months:** Proportion of infants 0–5 months of age who are fed exclusively with breast milk.

$$\frac{\text{Infants 0–5 months of age who received only breast milk during the previous day}}{\text{Infants 0–5 months of age}}$$

Continued breastfeeding

3. **Continued breastfeeding at 1 year:** Proportion of children 12–15 months of age who are fed breast milk.

$$\frac{\text{Children 12–15 months of age who received breast milk during the previous day}}{\text{Children 12–15 months of age}}$$

Introduction of complementary foods

4. **Introduction of solid, semi-solid or soft foods:** Proportion of infants 6–8 months of age who receive solid, semi-solid or soft foods.

$$\frac{\text{Infants 6–8 months of age who received solid, semi-solid or soft foods during the previous day}}{\text{Infants 6–8 months of age}}$$

Dietary diversity

5. **Minimum dietary diversity:** Proportion of children 6–23 months of age who receive foods from 4 or more food groups.

$$\frac{\text{Children 6–23 months of age who received foods from} \geq 4 \text{ food groups during the previous day}}{\text{Children 6–23 months of age}}$$

Meal frequency

6. **Minimum meal frequency:** Proportion of breastfed and non-breastfed children 6–23 months of age who receive solid, semi-solid, or soft foods (but also including milk feeds for non-breastfed children) the minimum number of times or more.

   The indicator is calculated from the following two fractions:

$$\frac{\text{Breastfed children 6–23 months of age who received solid, semi-solid or soft foods the minimum number of times or more during the previous day}}{\text{Breastfed children 6–23 months of age}}$$

and

$$\frac{\text{Non-breastfed children 6–23 months of age who received solid, semi-solid or soft foods or milk feeds the minimum number of times or more during the previous day}}{\text{Non-breastfed children 6–23 months of age}}$$

Summary infant and young child feeding indicator

7. **Minimum acceptable diet:** Proportion of children 6–23 months of age who receive a minimum acceptable diet (apart from breast milk).

   This composite indicator will be calculated from the following two fractions:

$$\frac{\text{Breastfed children 6–23 months of age who had at least the minimum dietary diversity and the minimum meal frequency during the previous day}}{\text{Breastfed children 6–23 months of age}}$$

and

$$\frac{\text{Non-breastfed children 6–23 months of age who received at least 2 milk feedings and had at least the minimum dietary diversity not including milk feeds and the minimum meal frequency during the previous day}}{\text{Non-breastfed children 6–23 months of age}}$$

Consumption of iron-rich or iron-fortified foods

8. **Consumption of iron-rich or iron-fortified foods:** Proportion of children 6–23 months of age who receive an iron-rich food or iron-fortified food that is specially designed for infants and young children, or that is fortified in the home.

$$\frac{\text{Children 6–23 months of age who received an iron-rich food or a food that was specially designed for infants and young children and was fortified with iron, or a food that was fortified in the home with a product that included iron during the previous day}}{\text{Children 6–23 months of age}}$$

OPTIONAL INDICATORS

Breastfeeding

9. **Children ever breastfed:** Proportion of children born in the last 24 months who were ever breastfed.

$$\frac{\text{Children born in the last 24 months who were ever breastfed}}{\text{Children born in the last 24 months}}$$

10. **Continued breastfeeding at 2 years:** Proportion of children 20–23 months of age who are fed breast milk.

$$\frac{\text{Children 20–23 months of age who received breast milk during the previous day}}{\text{Children 20–23 months of age}}$$

11. **Age-appropriate breastfeeding:** Proportion of children 0–23 months of age who are appropriately breastfed.

    The indicator is calculated from the following two fractions:

$$\frac{\text{Infants 0–5 months of age who received only breast milk during the previous day}}{\text{Infants 0–5 months of age}}$$

and

$$\frac{\text{Children 6–23 months of age who received breast milk, as well as solid, semi-solid or soft foods, during the previous day}}{\text{Children 6–23 months of age}}$$

12. **Predominant breastfeeding under 6 months:** Proportion of infants 0–5 months of age who are predominantly breastfed.

$$\frac{\text{Infants 0–5 months of age who received breast milk as the predominant source of nourishment during the previous day}}{\text{Infants 0–5 months of age}}$$

Duration of breastfeeding

13. **Duration of breastfeeding:** Median duration of breastfeeding among children less than 36 months of age.

The age in months when 50% of children 0–35 months did not receive breast milk during the previous day

Bottle feeding of infants

14. **Bottle feeding:** Proportion of children 0–23 months of age who are fed with a bottle.

$$\frac{\text{Children 0–23 months of age who were fed with a bottle during the previous day}}{\text{Children 0–23 months of age}}$$

Milk feeding frequency for non-breastfed children

15. **Milk feeding frequency for non-breastfed children:** Proportion of non-breastfed children 6–23 months of age who receive at least 2 milk feedings.

$$\frac{\text{Non-breastfed children 6–23 months of age who received at least 2 milk feedings during the previous day}}{\text{Non-breastfed children 6–23 months of age}}$$

Useful resource materials

WHO/UNICEF. *Global strategy for infant and young child feeding*. Geneva, World Health Organization, 2003.
http://www.who.int/child_adolescent_health/documents/9241562218/en/index.html
http://webitpreview.who.int/entity/nutrition/publications/gs_infant_feeding_text_eng.pdf

WHO/UNICEF. *Planning Guide for national implementation of the Global Strategy for Infant and Young Child Feeding*. Geneva, World Health Organization, 2007.
http://www.who.int/child_adolescent_health/documents/9789241595193/en/index.html

The International Code of Marketing of Breast-milk Substitutes. Geneva, World Health Organization, 1981.
http://www.who.int/nut/documents/code_english.PDF

The International Code of Marketing of Breast-milk Substitutes: frequently asked questions. Geneva, World Health Organization, 2008.
http://www.who.int/child_adolescent_health/documents/9241594292/en/index.html

WHO/UNICEF. *Baby-friendly Hospital Initiative: revised, updated and expanded for integrated care*. Geneva, World Health Organization, 2009.
http://www.who.int/nutrition/topics/bfhi/en/index.html

The optimal duration of exclusive breastfeeding: report of an expert consultation. Geneva, World Health Organization, 2001.
http://www.who.int/nutrition/publications/optimal_duration_of_exc_bfeeding_report_eng.pdf

Optimal feeding of low-birth-weight infants: a review. Geneva, World Health Organization, 2006.
http://www.who.int/child_adolescent_health/documents/9241595094/en/index.html

Evidence on the long-term effects of breastfeeding. Geneva, World Health Organization, 2007.
http://www.who.int/child_adolescent_health/documents/9241595230/en/index.html

PAHO. *Guiding principles for complementary feeding of the breastfed child*. Washington, Pan American Health Organization, World Health Organization, 2003.
http://www.who.int/child_adolescent_health/documents/a85622/en/index.html

Guiding principles for feeding non-breastfed children 6–24 months of age. Geneva, World Health Organization, 2005.
http://www.who.int/child_adolescent_health/documents/9241593431/en/index.html

WHO, UNICEF, UNFPA, UNAIDS, FAO, UNHCR, WFP, WB, IAEA. *HIV and infant feeding: a framework for priority action*. Geneva, World Health Organization, 2003.
http://www.who.int/child_adolescent_health/documents/9241590777/en/index.html

Guidelines on HIV and Infant Feeding, 2010. Geneva, World Health Organization, 2010.
http://www.who.int/child_adolescent_health/documents/9789241599535/en/index.html

WHO, UNICEF, UNFPA, UNAIDS. *HIV transmission through breastfeeding: A review of available evidence, 2007 update*. Geneva, World Health Organization, 2008.
http://www.who.int/child_adolescent_health/documents/9789241596596/en/index.html

WHO, UNICEF, WFP, UN-SCN. *Community-based management of severe acute malnutrition: A joint statement*. Geneva, World Health Organization, 2007.
http://www.who.int/child_adolescent_health/documents/a91065/en/index.html

Infant and young child feeding. Model Chapter for textbooks for medical students and allied health professionals. Geneva, World Health Organization, 2009.
http://www.who.int/child_adolescent_health/documents/9789241597494/en/index.html

For more information, please consult
http://www.who.int/child_adolescent_health/en/ and http://www.who.int/nutrition/en/

This document presents data on indicators for assessing infant and young child feeding practices for 46 countries, based on Demographic and Health Surveys conducted between 2002 and 2008. The indicator values were calculated using new and updated definitions published by WHO and partners in 2008; some values have not been calculated before and therefore provide a baseline for tracking progress in infant and young child nutrition in the future. The document is one in a series of three documents on *Indicators for assessing infant and young child feeding practices* issued by WHO that also include Part 1: Definitions and Part 2: Measurement.

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